Canadian Centre for Occupational Health and Safety

Centre canadien d'hygiène et de sécurité au travail

OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOPS

P89-25E

OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOPS

Hamilton, Ontario
June 22 and 23, 1988

Edmonton, Alberta
March 21 and 22, 1989

Moncton, New Brunswick
May 24 and 25, 1989

Hamilton, Ontario
September 19 and 20, 1989

Canadian Centre for Occupational Health and Safety

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OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOPS

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EXECUTIVE SUMMARY

At its meeting of February 1988, the CCOHS Council of Governors discussed statistics in occupational health and safety and the role of CCOHS. It came to the conclusion that CCOHS could play an important role in facilitating discussions and agreements leading to a way forward on this difficult topic. It directed CCOHS to hold two workshops on occupational health and safety statistics. The first would be for 12-15 high-level representatives of organizations involved in occupational health and safety statistics. They would discuss present programs and problems and set the following objectives for the second workshop, whose participation would be broad-based.

In June 1988, the first of these workshops was held at CCOHS. It was attended by 17 enthusiastic people--15 from statistics organizations, one representing labour and one representing management. A very productive two days set objectives for several regional workshops.

The purpose of each workshop is to broaden the base of understanding and to generate recommendations. The idea is to improve what exists, not scrap it.

With the overall goal of improving health and safety in Canada's workplaces and of creating consensus, CCOHS will facilitate five regional workshops. These will:

a) examine needs of governments, employers, labour and others for statistics pertaining to occupational health and safety;

b) identify improvements which are needed in occupational health and safety statistics; and

c) make specific recommendations to appropriate ministers.

When those recommendations went to its October meeting, Council was also considering a proposal to regionalize workshops. It decided to mesh the two and have occupational health and safety statistics as the topic for its first set of regional workshops.

Edmonton

CCOHS' first regional workshop held in Edmonton, March 21 and 22 was a great success; it attracted 70 participants, considerably more than the 50 or so envisaged. The opening panel, the only formal presentation at the workshop, brought the speakers' views to the platform--one of them, Stan O'Shea of DuPont Canada Inc, representing employers, challenged the participants with the statement that follows.

> "The time has come to move forward...let us reach a consensus in occupational health and safety statistics. Let us identify what we need, why we need it and how we can get it. Let us generate such momentum... that governments will respond and we will put in place a national Canadian system.
>
> "This is not an easy task. There will be many bumps in the road. Ladies and gentlemen, let us together take the next step down that road with confidence. The beneficiaries of our endeavours are the workers of Canada."

The discussions within the groups were lively and the participation total. Agreements were that there should be:

- a centralized base of statistical information for users and providers to tap into;
- consistent definition of terms so information can be shared;
- standardization of investigation and reporting;
- participation of labour and management in accident investigation;
- full consideration of confidentiality.

Some suggestions were made for the next workshop to include a session on definitions for use in discussion within the groups; and more involvement by public health people for better discussion of health statistics.

We have received some very pleasing comments calling the workshop "excellent," "impressive," and a note relaying the opinion of one of the participants that it was the "best 'conference,' of any kind, that he has ever attended."

Much of the success of this workshop can be attributed to the enthusiasm and support of Governors from the western provinces, especially Alberta, and the regional office of Labour Canada.

Moncton

The second regional workshop on Occupational Health and Safety Statistics was held in Moncton, May 24 and 25 and was attended by 50 high-level representatives of government, labour, management, and professionals. All the Maritime provinces were represented, and participants agreed on a wide range of issues.

They found a need for cooperation among all stakeholders to share information and a need to make this information public while still protecting individual confidentiality. The development of a pan-Canadian system for the collection and classification of core information in a central repository that would be available to all user groups was urged. They agreed there was a need for consistent, reliable and unbiased statistics to help develop safety programs that would effectively prevent accident and injury in the workplace. They recommended the standardization of accident investigation forms and procedures that would include causal data to help pinpoint deficiencies.

Standard definitions of terms was a need put forward by the Edmonton workshop; the Moncton participants took up this task and came to agreement on several standard definitions that they recommended be used by the participants of the third regional statistics workshop to be held in Hamilton. They hoped that this will begin the process of developing a national standard for terms used in the collection and classification of information.

Integral to the success of the workshop was the assistance and support provided by the CCOHS Governors from the Maritimes, by the Atlantic regional office of Labour Canada, by the New Brunswick Occupational Health and Safety Commission and by the New Brunswick Workers' Compensation Board.

Hamilton

The last regional workshop took place in Hamilton on September 18 and 19, 1989. Sixty-five representatives of employers, labour, government and professionals attended this workshop; they came not only from Ontario and Quebec, but also from British Columbia, Alberta and Nova Scotia. This time health professionals were well represented.

This workshop was as successful as its predecessors. As in the Edmonton and Moncton workshops, there was excellent cooperation and assistance from the government--Ontario participated throughout and hosted the dinner. But there were two disappointments: the refusal of the Workers' Compensation Board of Ontario to participate either on the platform or in the workshop--an exception to the attitude of Workers' Compensation Boards across Canada--and few participants from labour (fewer than in Edmonton or Moncton).

A strong consensus for a national standard to govern the collection of information on occupational injuries and illnesses emerged from this workshop as it did from the entire process. As before, consensus was reached at this workshop on the need for standard definitions. Some working definitions had been agreed in Moncton and examined in Hamilton. Participants agreed that more detailed work should establish definitions that are practical, acceptable and used nationally.

Labour concluded that to establish a prevention program using statistical information as a guide, statistics must be occupation-specific and industry-specific, shift patterns must be considered, and, above all, causation must be well defined.

Consistency is needed to improve investigations into the causes of work-related accidents and diseases, the reporting and recording of accidents and the accessibility to statistical information. Accident investigation must explain the sequence of events adequately so that what is learned can be applied to similar jobs in other industries.

A central repository for statistical information is required if the information is to be accessible and usable throughout Canada. Confidentiality must be part of the system to ensure that the rights of individuals are not compromised.

There was less consensus on whether legislation would help or hinder the development of a national standard--some saw it as essential, others feared it would be so slow as to lose the momentum.

Stan O'Shea began the regional workshops in Edmonton with a challenge to the participants "to generate such momentum that we will put in place a national Canadian system". He concluded this workshop by saying, "we have had ample discussion, let us get on with the job". A national steering committee was suggested. The report from the Government contingent asked that CCOHS compile information to be used as input to the steering committee. Tim Morrison asked the participants to pass a resolution asking CCOHS to facilitate such a committee. A near-unanimous show of hands led him to say, "I think you can take that as an official asking." CCOHS asked to be allowed to bid for the facilitation and secretariat work.

Another resolution, this one by Gordon Lloyd, urges CCOHS' Council of Governors to endorse a multipartite effort to develop a national standard and to encourage the groups they represent to back this development. This Governors did at their meeting of October 4.

The recommendations from the workshops were sent to the Ministers responsible for occupational health and safety as a true representation of the needs of all Canadians for trustworthy, accurate and complete statistics.

The Canadian Manufacturers' Association arranged for an exploratory meeting for those interested in attending on October 31 at the Royal York Hotel in Toronto. The meeting was well attended, successful and determined to continue working towards a Canadian system. A further meeting was planned for February 1, 1990.

SUMMARY OF RECOMMENDATIONS

The recommendations from all three regional workshops were remarkably consistent. A summary of these recommendations follows.

Needed are:

- The development of a pan-Canadian system of data collection, classification and reporting that can be adopted by all groups needing statistics on occupational injuries and illnesses.
- A multipartite steering committee to develop this system as soon as possible. This committee must include all stakeholders--labour, management, government and professionals.
- The development of consistent definitions.
- Separate reporting systems for occupational injuries and occupational illnesses.
- A central data repository which would be administered by a group, such as CCOHS, which is independent in nature and unbiased.
- Data which is accessible to the public but depersonalized to protect individual workers and companies.
- Training programs to develop better prevention methods.
- Standard form or protocol for accident investigation and training in accident investigation.
- Cooperation between all interested groups (medical professionals, management, labour, governments and agencies) so that information can be shared effectively.
- The development of a mechanism to link health data with occupation, industry and exposure data.
- Legislation to require health and safety programs in workplaces and to establish information collecting procedures relating to health and safety.
- Certification of health and safety personnel present during the investigation and reporting stage to ensure competency and to promote reliability and uniformity of information.

- Addressing the difficulty of obtaining occupational illnesses information and incorporate into national system as a priority.

The participants also agreed that recommendations from the statistics workshops be sent to provincial Ministers responsible for occupational health and safety, with leadership in acting on these recommendations to come from the federal Minister of Labour; and the general question of occupational health and safety statistics be placed on the agenda for the meeting of Ministers responsible for occupational health and safety.

OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOP

Edmonton Alberta

March 21 and 22, 1989

PANEL DISCUSSION

* **Horst Stiebert, Labour Division Statistics Canada**

* **Dennis Malayko, Alberta Union of Provincial Employees**

* **John Wisocky, Association of Workers' Compensation Boards of Canada**

* **Stan O'Shea, The Canadian Manufacturers' Association**

* **Tee L Guidotti, Occupational Medicine University of Alberta**

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Canadian Centre
for Occupational Health and Safety
With the assistance and support
of the Government of Alberta

OCCUPATIONAL HEALTH AND SAFETY STATISTICS

A Workshop

Tuesday, March 21 and Wednesday, March 22, 1989
Chateau Lacombe Hotel, Edmonton, Alberta

Tuesday, March 21, 1989

8:15 am — REGISTRATION AND COFFEE - Foyer

9:00 am — Welcome and Introduction to the Workshop - Salon B
Lillian Vine, Manager, Committees and Workshops
Canadian Centre for Occupational Health & Safety

9:15 am — **Panel Discussion**

Statistics Canada looks at Occupational Health and Safety Statistics
Horst Stiebert, Chief, Labour Division
Statistics Canada

Labour looks at Occupational Health and Safety Statistics
Dennis Malayko, Health & Safety Representative
Alberta Union of Provincial Employees

Workers' Compensation Boards look at Occupational Health and Safety Statistics
John Wisocky, Executive Director
Association of Workers' Compensation Boards of Canada

One industry's use of Occupational Health and Safety Statistics
Stan O'Shea, Corporate Manager, Occupational Health and Safety, DuPont Canada Inc

University of Alberta Studies on Statistics
Tee L Guidotti, Professor, Occupational Medicine
University of Alberta

Open Discussion

10:30 am — BREAK - Foyer

10:45 am **Workshop #1 -- Prevention**

a) What information do you need to help in prevention?
b) How useful is existing statistical information?
c) What statistical information?
d) What is good information? For whom?

12 noon LUNCH - Salon C

1:00 pm **Workshop #2 -- Information**

a) What can you learn from accidents?
b) What can you learn from injuries?
c) What can you learn from fatalities?
d) How can it help with prevention?

2:00 pm **Workshop #3 -- Accident Investigation**

a) What information do you need from accident investigation?
b) Is accident investigation consistent? Can it be biased? How? What can you do about it?
c) Does it adequately describe the sequence of events?
d) How can it be applied to similar jobs in other industries?
e) How is the information shared? interpreted?

3:00 pm BREAK - Foyer

3:15 pm **Workshop #4 -- Occupational Diseases**

a) What are the sources of information?
b) What information can you get from them?
c) What other sources would be useful?
d) Is there a risk to confidentiality?
e) How do you protect confidentiality?

4:15 pm **Workshop #5 -- Costs**

a) What can you learn from cost information?
b) How does fatality information help prevention of illnesses? serious injuries? all accidents?
c) How do you limit costs?

5:30 pm	CASH BAR - Salon C
6:15 pm	DINNER - Salon C Hosted by the governments of Alberta, British Columbia, Manitoba, Saskatchewan, the Yukon and the Northwest Territories

Wednesday, March 22, 1989

9:00 am	**Workshop #6 - Homogeneous Groups** Consideration of solutions Preparation of report
10:30 am	BREAK - Foyer
10:45 am	**Plenary Session - Salon B** Reports of Labour, Management, Professionals and Government Recommendations from the Workshop
12 noon	**Close of Workshop**

The Centre gratefully acknowledges the contributions of the government of Alberta, Labour Canada, and the governments of British Columbia, Manitoba, Saskatchewan, the Yukon and the Northwest Territories to its first regional workshop.

PANEL PRESENTATIONS

Horst Stiebert - Statistics Canada

(Horst Stiebert made a presentation at each of the three workshops--the text appears on page 45.)

Lillian Vine

There are many new friends here and many familiar faces. John Alderman has just finished his term on the CCOHS Council of Governors where he represented the government of Saskatchewan; he has been very supportive of our workshop program and of the regionalization of our workshops. Yoon Kim, Chief of Statistics in the Occupational Safety and Health Branch of Labour Canada, was part of our planning workshop last June and he is here today. Bryan Whitfield, of the New Brunswick Occupational Health and Safety Commission, is on our planning committee for the Moncton workshop.

The support which has been provided through our governors has been more than moral support--important as that has been. The translation, both equipment and service are being provided by Labour Canada. The dinner this evening is being hosted by the governments of the western provinces and territories. Beyond that the government of Alberta has helped in all kinds of financial ways, including room rental. These generous contributions have offset the additional expense of holding workshops away from Hamilton. The same thing is happening in the regional workshop in the East where we are also getting tremendous help and support. We are most grateful and appreciative of these very tangible expressions of support.

Our next speaker, Dennis Malayko, represents Labour. Dennis is the Health and Safety, WCB, Long Term Disability Insurance Representative with the Alberta Union of Provincial Employees and has been since 1976. Prior to that he was the Safety Officer with Celanese Canada Ltd. He has served and serves as the Alberta Federation of Labour Health and Safety Committee Chairman for several years, National Union of Provincial Government Employees (NUPGE) and Canadian Labour Congress (CLC) Health and Safety Committees. He has represented labour on tripartite groups including the Alberta CCOHS Data Base Users Committee when we started our CCINFOline system. CCINFOline is very successful, but it has been overshadowed by our CCINFOdisc, which is extraordinary. Each disc holds an incredible amount of information, up to a quarter of a million typewritten pages on one very small disc. It requires no computer expertise to use--not even typing skills.

Dennis has also been involved with the Calgary Mount Royal College Hygiene Program Curriculum Committee and many other committees.

Dennis Malayko - Alberta Union of Provincial Employees

I would like to congratulate the Canadian Centre for Occupational Health and Safety for the workshop, especially for holding it in Alberta, and to thank Mr Rozel for all his efforts on behalf of Alberta. I have no doubt the time we spend here discussing statistics will broaden the base of understanding about occupational health and safety statistics; it will also generate recommendations about the gathering of data that will better serve prevention purposes.

I shall attempt to give a labour perspective of occupational health and safety statistics. I was introduced to the American National Standards Institute (ANSI) Z16.2 Work Injury Coding Scheme during my youth in the early seventies. Some of the problems I encountered then in my quest to fulfill the obligations of collecting, compiling and calculating data I am still encountering today. I want to share some of these concerns. The reason I am dealing with the Z16.2 ANSI system is that it is extensively used today.

The Z16.2 basically records eight aspects or categories of an accident--it records the nature of the most serious injury, the parts of the body affected, the source of the injury, the type of accident, hazardous condition, the agency of the accident (e.g. a slip, trip, fall or reaction), the agency of the accident part (contusion, sprain, laceration) and the unsafe act. Only one fact about these categories is to be recorded. This is one of the major drawbacks. Those involved in accident investigation will note that most investigation reporting forms normally include all the Z16.2 factors to satisfy the basic compilation requirements.

I feel the Z16.2 is inadequate as a basis for accident or occupational disease prevention programs because it records the results of accidents, not the causes; it allows for classifying only the injury-producing event, such as the unsafe act or condition, when there may have been a complex sequence of events. A chronic complaint of injured employees following accident investigation conducted by the immediate supervisor at the workplace is that the reports tend to blame the victim, citing the unsafe act (carelessness or poor attitude) as the accident cause; in fact, many other factors were likely involved including a complex interrelationship of pre-accident influences (poor job design), environmental factors (heat, cold, noise, chemicals), employee/employer relationships (shift work, short-staffing) and social/economic factors.

Besides the lack of background to accurately complete a document (of limited use), quite often the employer representative shies away from attributing unsafe conditions as the accident cause because of fear of a negative performance rating and/or prosecution or the potential for future claims.

All the information that has been put together in the accident investigation is then used as the base for establishing the determination of accident frequency and severity rates, or, respectively, the predicted number of injuries per million hours for frequency rates and the predicted number of days lost per million hours worked based on past experience. Given the potential for non-reporting or biased reporting, use of sick leave instead of workers' compensation leave, fear of a frequency or severity rate increase, unreliable methods of tracking and flagging disease data, the ANSI Z16.2 should be drastically overhauled. It is not effective as a measuring tool. We engage in more debates about the method of compilation than we do about the accident causation.

What needs to be done? Investigation should be conducted by those trained in hazard identification who have the ability to recognize potential health and safety concerns. The system has to be user friendly. Forms or check lists must be changed to reflect objective findings. I believe our accident investigation forms are too subjective; we, in the areas I represent, have modified the investigation form, often through consensus of the joint worksite committee, to make the form more objective. Instead of identifying unsafe causes or unsafe conditions as one element, we look to identify factors, such as the environment and job design, that may have been involved during or before the accident.

It is especially important that the documents guide even the untrained through accident or disease causes and the relationship to extraneous factors such as job design, shift work, environmental issues, employee/employer relationships.

We need more occupational tracking as opposed to industry tracking. Let's begin looking at occupations and their specific diseases or hazards, and develop statistics which can predict trends and compare similar occupations in disparate worksites. The issue of occupational disease and associated chronic cumulative exposures to processes is of utmost importance to the labour movement. As is predicting a potential problem from such things as repetitive strain and chronic abuse or small injuries and assaults to the body. We want statistics to be responsive enough to be able to predict a trend which would allow us to put in preventive programs before the problem arises--similar to an early warning system.

We in labour must be involved in making statistics work for us, not us for them. I see a lot of time and energy wasted on compiling, gathering and recording information that is largely useless to us because it does not give us specific information which would enable us to develop programs.

Lillian Vine

John Wisocky, our next speaker, has spent over 25 years in the field of workers' compensation. He has held senior positions at both the Ontario and the Alberta WCBs. Since July 1987 he has been National Executive Director of the Association of Workers' Compensation Boards of Canada.

John has served on several provincial, national, and international committees or task forces on workers' compensation and rehabilitation. He is a member of the Legislative Committee of the International Association of Industrial Accident Boards and Commissions in the United States and a member of the Vocational Commission of Rehabilitation International, a world-wide organization.

John Wisocky -Association of Workers' Compensation Boards of Canada

The Association of Workers' Compensation Boards of Canada (AWCBC) is an umbrella organization representing the 12 member jurisdictions. One of the objectives of the Association is to encourage, and cooperate with, Statistics Canada in the development of statistics with respect to injuries and diseases, as well as financial and other data of value to the members. Another very important objective is to encourage accident and disease prevention and safe working conditions. When WCBs came into being in Canada many years ago, accident prevention was one of its two main objectives.

One of the proposed objectives the 12 member jurisdictions might agree to at this year's convention is to promote research in workers' compensation matters and to share findings with member organizations and other interested parties. Research is somewhat lacking on a national basis. A lot of good research is going on in various jurisdictions, but there is very little that compares one jurisdiction to another.

Workers' compensation has been in existence since 1915 when it started in Ontario. The last jurisdiction to have a current-type compensation system was the Northwest Territories in 1977. Workers' compensation has been described as a form of compulsory mutual insurance for most employers because it is not a universal scheme across Canada. Only about 80% of the workforce in Canada is covered and there is a tremendous variation across the country. Some of the prime industrial sectors in Canada are not covered. For example, fishermen and farmers are not compulsorily covered in all jurisdictions.

Workers' compensation is a no-fault system for accidents and diseases. But in accident investigation activities, there is still a tendency to find fault when an accident happens. Workers' compensation is a collective liability system in the sense that it is paid for by industries that are covered. It is administered by 12 autonomous quasi-judicial WCBs across Canada.

The earnings covered under compensation in 1989 range from $23,000 (PEI) to $48,000 (Saskatchewan). The program pays benefits for lost time, rehabilitation and medical aid. There are other benefits, but these three are the primary ones. The average assessment rates in 1989 range from a low of $1.34 in Nova Scotia to $3.12 in Ontario. This means that Ontario employers pay an average of $3.12 for every $100 payroll for workers covered under compensation. But averages can be misleading.

Statistics

About 1 million accidents or diseases were reported to compensation boards in 1987; about half of these were accepted lost-time claims. There were 819 fatalities in 1987. That is a significant number but it pales when compared to the fact that over 2,000 children died as a result of general accidents in Canada last year.

In 1987, there was 1 injury for every 8 workers covered under compensation; 1 injury every 6 work seconds; and 1 fatality every 4.1 work hours.

About 4-5% of the injuries or diseases reported to compensation boards involve permanent disabilities. A little more than $3.5 billion were paid out as benefits in 1987. "Backs" are about 27% of the total reported cases and represent one of the continuing dilemmas in workers' compensation.

Occupational Health and Safety Statistics

British Columbia and Quebec are the only remaining Boards responsible for health and safety as well as workers' compensation programs. The Boards used to be responsible for accident prevention, but with the advent of the health and safety legislation in the 1970s, there was a division of responsibilities. Ontario still has its own safety associations but there is a Bill before the Ontario legislature proposing a new health and safety agency to include safety associations and enforcement agencies.

Workers' compensation programs have differences in benefits payable, in administrative practices and in the compilation of statistics.

Boards have traditionally used statistical data for annual reports, for accident prevention needs, for national and other statistical programs, for planning and operations purposes, and for research/policy requirements. Sometimes the data supplied by WCBs are not as specific as users require.

WCB Practices

There is no national standard for compiling statistics; Statistics Canada and the Association, on behalf of WCBs, are working on an agreement to ensure a better cooperative arrangement to produce better "work injury" data.

Three main coding schemes are used by WCBs:

- Z16.2 - American National Standard for injuries and illnesses;
- SIC (1980) - Standard Industrial Classification for industry activity; and,
- OCM (1971) - Occupational Classification Manual for occupations

Z16.2

The primary function of WCBs is the adjudication of claims for work injuries, and they look for the occurrence of an accident and the effect or result. The forms are geared towards the collection of this type of information. Other information asked for on a WCB report of accident may be beneficial for health and safety purposes or for statistical gathering, but they are secondary from an adjudication perspective. For example, Alberta has been approached by the Occupational Health and Safety Division to develop an expanded report of accidents so that more meaningful information can be gathered about causes. The end result would be a WCB accident form which is several pages long. There is nothing wrong with this suggested form, but much of the information is extraneous to the adjudication process. It may not be appropriate to ask industry to fill in this expanded form for injuries especially when WCB needs the completed form within a maximum of 72 hours after the accident.

Z16.2 does not allow for the coding of more than one event nor does it allow for the inclusion of what precipitated the accident. Z16.2 may not be sufficiently sensitive to the needs of the 1980s and the future.

ICD (International Classification of Diseases)

Two jurisdictions, Ontario and Saskatchewan, are using variations of this scheme, which is very complex. It is more suitable for the collection of data at hospitals and medical centres. ICD collects data such as modality of treatment, causes of deaths or injuries, types of diagnoses and types of medication. Eventually, WCBs will have to deal with the issue of coding diseases, and there are limitations under the Z16.2 system. There is some good ongoing work with Statistics Canada in the expansion of codes for diseases.

The National Work Injuries Statistics Program is a cooperative effort between Statistics Canada and Workers' Compensation Boards across Canada. This program collects such information as the nature of an injury, the part of the body affected, the source of an injury, the accident type, the age of the injured worker. An excellent report called "Work Injuries" (current issue being 1985-1987) is published using this information and dealing with allowed lost time claims. This document is used extensively by WCBs and there is support for the further development of these types of reports.

Limitations of WCBs' Statistics

The data collected from the basic WCB forms are geared toward adjudication of claims and collection of assessments. There is no uniformity or consistency as different WCBs use

different coding method based on their particular needs. The continuing work with Statistics Canada is bringing us closer to uniformity and consistency, but there are difficulties. One is that not only are many injuries not required to be reported, but some of the accidents are covered under other types of benefit schemes. Examples of cases that are not reported routinely are the "no time loss" claims or the medical aid (M/A) claims in Alberta and Quebec as well as all first aid cases. Statistics Canada is interested in allowed time loss claims because this is one of the common denominators across Canada.

Another problem is that judgment must be used in the coding of the information. Occupational diseases are not well coded under existing systems. Only about 3-5% are occupational disease cases, but this is expected to increase in the future because of the chronicity of diseases, the aging of the workforce and the expansion of coverage under workers' compensation to include such things as stress and chronic pain disorder. There are difficulties with improper diagnoses and non-reporting of some cases to WCBs because of very long latency periods.

Canada needs a systematic integrated method of identifying and reporting injuries and diseases. There is much good work going on, including the efforts of WCBs, but we need to do a lot more, especially on a national basis.

There is also a need for common definitions and common statistical gathering methods. Workers' Compensation Boards and Statistics Canada are working together to refine and expand coding schemes for consistency and uniformity and WCBs are establishing closer working relationships with occupational health and safety authorities. WCBs are also expanding their research roles and several jurisdictions have set up formal research functions as part of their mandates. These efforts are commendable, but much more needs to be done if a truly meaningful, effective monitoring and reporting system is to be established for work injuries and diseases. Everyone has to participate--the worker, the employer, the doctor, the hospital, the WCB and others. Only through the continuing efforts of all key participants will we get a better system.

Lillian Vine

Our next speaker, Stan O'Shea, is Corporate Manager of Occupational Health and Safety of Du Pont Canada Inc at the Corporate Head Office in Mississauga. Stan is a native of Ottawa and received his chemical engineering degree from the University of Toronto. He joined Du Pont at its Maitland, Ontario Works in 1953. Over the next several years he held positions in manufacturing, technical, design and construction. In 1967, he moved to the company's paint manufacturing plant in Ajax as assistant works manager. Two years later he transferred to the industrial chemicals division where he held several marketing positions. He was then transferred to North Bay in project management and plastics manufacturing assignments. He has been in his present position since 1979.

Stan O'Shea is a member of the Association of Professional Engineers of Ontario. He has served as a councillor of that association and as chairman of both its Thousand Islands and Nipissing District chapters. He has served on the Occupational Section of the Canada Safety Council and on the executive of the Halton-Peel and Golden Triangle Divisions of the Ontario Industrial Accident Prevention Association. Stan also represented the Canadian Manufacturers' Association in the planning workshop last June, which defined the objectives for the regional workshops of which this is the first.

Stan O'Shea - The Canadian Manufacturers' Association

I asked myself how I was going to address this subject because the title on the agenda said "One Industry's Use of Occupational Health and Safety Statistics." My concern was that Du Pont Canada is in a number of industries: chemicals, plastics, synthetic fibres, electronics, pharmaceuticals, and so on. I decided to focus on Du Pont overall and not on any one sector of its businesses. Then I decided to go beyond Du Pont and focus on the broader issue of occupational health and safety statistics.

Du Pont today manufactures a broad range of chemicals, synthetic textile fibres, plastics and specialty products at five major sites in Ontario. Our sales are $1.4 billion annually serving customers across Canada and in over 60 countries around the world.

Du Pont employs over 4,300 men and women in its manufacturing operations, research, development and technical laboratories, warehouses and distribution facilities, sales, service and administrative offices across Canada. We have recently opened a new head office in Mississauga.

Du Pont began collecting safety data decades ago. We still have data available from our Shawinigan Quebec cellophane plant dating back to 1932.

Why do we collect data at all? We firmly believe that occupational safety and health information and data are indispensable to reducing occupational injuries and illnesses. Our goal is zero. Management and employees know this is our goal; and everyone needs to know how we are doing and what progress we are making. If you cannot quantify where you are at, you cannot effectively adjust your safety programs and practices. Our focus is strongly on prevention. We consider safety and occupational health data an effective tool to improve prevention activities.

Prior to 1977, the data we collected was based on the American National Standards Institute (ANSI) Z16.1 Standard on recordkeeping for occupational injuries and illnesses. Since 1977, we have been using the US Bureau of Labour Statistics Guidelines, and these guidelines have been upgraded a number of times. Now why would any firm in Canada use a US System? Because it is there, it is thorough, it has been upgraded and it permits comparison industrial sector by industrial sector. There simply is no Ontario or Canadian system in place--surely that is what we are here to discuss.

In Du Pont, there are three interconnected activities in regard to safety and occupational health data and information--recording, classifying and notifying.

Recording is the first activity. This is where we write down in the workplace--be it a plant, laboratory, or office--what the occurrence was, what the injury was. We do this so we can capture the incident and the information surrounding it. We do this for all recordable injuries.

The second activity is to classify the injury or illness based on the severity of the outcome. So we use the Bureau of Labour Statistics (BLS) classifications of Lost Work Case (LWC), Restrictive Work Case (RWC), Medical Treatment Case (MTC) and First Aid Case (FAC). The combination of the three most severe outcomes, i.e. LWC + RWC + MTC, is called Total Recordable Cases (TRC). There may be some disagreement about the classification of an individual injury based on an interpretation of the guidelines, but it is nevertheless a classification system that is evolving and being improved upon frequently. No equivalent Canadian system exists. By focussing on total recordables much of the controversy on classification is eliminated and we use total recordable frequency in Du Pont as a yardstick of our safety and health performance.

The third activity is to notify or report the data and information collected. Obviously, federal and provincial legislation and regulation require notification on some types of injuries and illnesses. This would include Ministries of Labour, Workers' Compensation Boards, and the like. In addition, there is reporting to management, unions, employees, and other interested parties.

Here is the type of data we collect in Du Pont on every recordable case:

- identity of the injured or ill person and all the usual demographic characteristics about that person;
- the employment status (regular or temporary);
- the source of the injury or illness, be it process equipment, tools, motor vehicles, or the like;
- the nature of the injury or illness, such as burn, cut, skin disease;
- part of the body;
- accident type, such as slip, trip, caught by, strain;
- personal protective equipment deficiency, be it glasses, gloves, respirator;
- the type of incident--an injury, illness, fire, release of chemical;
- day of week, hour, shift and such;
- cause of the incident which includes both basic cause and contributory cause;
- the location of the incident--walkway, maintenance shop, process area;
- activity status at the time of the incident, such as normal operations, start-up and such;
- classification of injury or illness.

The type of data I referred to is collected whether it is an injury or an illness. We acknowledge the difficult challenge of recording occupational illnesses because of the long latency period often involved and the causal relationship to the work environment. Our medical doctors look at every illness and disease reported by an employee and make a preliminary assessment as to whether or not it might possibly be work related. If so, that individual is identified on a continuing medical monitoring program. Confidentiality of medical information is an important element of our program. We use the international classification of diseases coding system.

The data I referred to is summarized and put into a computer program. It can then be analyzed and evaluated. For example, we can extract abstracts on incidents involving fork lift trucks, or slips and falls and others. Analyzing data on the parts of the body that were injured leads to improved safety programs--for instance, one of our plants had a significant number of cuts to the hand. Each plant, each laboratory or each office can analyze its own data and focus attention on safety programs that will do the most good at their own site.

In regard to notification or reporting, Du Pont, in addition to meeting the statutory requirements, voluntarily provides injury and injury frequency data to the Ontario Industrial Accident Prevention Association, the US National Safety Council and the Canadian Chemical Producers' Association Share Group.

In Du Pont, our key measures of safety performance are LWC frequency and TRC frequency. Our President sets annual objectives for both of these categories. Our actual performance in 1988 was an LWC frequency of 0.19 per 200,000 exposure hours and our 1989 objective is a frequency of 0.04. The average for all industry, according to the National Safety Council is 1.86, so Du Pont was 10 times better. Our actual performance in 1988 for TRC frequency was 0.99 and our 1989 objective is 0.7. The National Safety Council's all-industry average is 7.59, so Du Pont was 8 times better.

Let me now move beyond what we do in Du Pont and focus on a bigger canvas. In December 1984, the tragedy at Bhopal in India occurred. Immediately afterward in Canada, the federal Ministry of the Environment created a task force that issued a report in March 1986 entitled "Bhopal Aftermath Review: An Assessment of the Canadian Situation." Under the heading of "Safety Statistics," here is what the report said:

> Worker lost-time and illness statistics can be interpreted as an indication of the attitude and approach taken by an industry sector towards safety but not necessarily as a reflection of the programs in place to prevent a Bhopal-type incident. The accident record of the Canadian chemical and petroleum industries is, in general, better than the average for other industrial sectors. However, the information base that documents this record needs to be improved.

In 1985 there was the MacDonald Royal Commission on the Economic Union and Development Prospects for Canada. In the section addressing occupational health and safety problems, the Commission, after reviewing appropriate information, included this finding: "Recognition that occupational health and safety is a matter of national concern, and that more adequate data and research are required."

These examples are illustrative of needs identified by groups who have studied this subject. Their thrust is to a national Canadian system of occupational health and safety statistics.

Let me expand on this thrust and outline basic safety and occupational health data needs as I see them. Data on injuries and illnesses in the workplace and on workplace hazards are key to developing and maintaining successful safety and occupational health programs.

These data needs are common, whether in our federal, provincial or territorial jurisdictions. Both the data producers and the data users have needs.

1. Data for Regulation

   Governments across Canada need timely and detailed information on the incidence of occurrence and the characteristics of work-related injuries and illnesses together with the appropriate demographics of the affected workers so as to develop risk reduction regulations in an effective manner. For health hazards, there is need to have data about the risks posed by exposure to chemical, biological and physical agents, and the reduction in that risk that would result from introducing a changed level. For safety hazards, regulatory action needs to be based on data outlining the number of injuries caused by a particular hazard, the number of workers at risk and factors contributing to the injuries.

2. Data for the Enforcement of Legislation and Regulations

   Laws and regulations need to be obeyed by employers and employees and enforced appropriately. No government will ever have enough inspectors to cover every workplace all the time. The concept of targetting those workplaces for inspection is accepted practice. To do so effectively, reliable timely data is needed on the incidence of injuries and illnesses by industry, establishment size, type of operation, the nature of exposures, safety hazards. Additionally, for health hazards, data on estimated exposure are needed.

3. Data for Studies on Occupational Injuries and Illnesses

For studies to be possible, data must be available on the incidence and prevalence of injuries and illnesses and on the conditions, exposures and factors that contribute to those events. Once occupational relatedness has been established, data is needed that can identify particularly high risk jobs, operations or workplaces. Such research must give rise to effective safety and health programs.

4. Data for Evaluation

Data are needed by management, labour, researchers, and others for evaluating the effectiveness of policies, audit activities and enforcement programs. There is a need to analyze trends in the incidence of injuries and illnesses in particular industries, operations and workplaces. Data are also needed that evaluate whether workplaces are becoming safer and healthier.

5. Data for Employers

Employers are responsible and accountable for the prevention of injuries and illnesses in the workplace. To implement and improve on safety and health programs, national, provincial and industrial sector data are needed to compare with their own experience. Meaningful timely data are needed to identify problem areas and their causes, to track the occurrence of injuries and illnesses and to audit and evaluate the effectiveness of particular programs.

6. Data for Unions and Employees

No safety and occupational health program can be successful without the involvement of workers--in a union shop or not. Workers don't want to be hurt. Safety and health are key issues for unions. Workers and unions have data needs similar to the needs of employers and others. Data is needed to help employees understand the types of accidents and exposure risks within their specific industry and occupation and to identify potential risks in their own workplace.

The needs I have outlined were not intended to be exhaustive but illustrative of the kinds of data needed by these various constituencies, all of which have legitimate needs. These needs must be filled. There is much useful information and data available now. It must be added to, improved upon, made more meaningful, timely and consistent.

Tomorrow as we complete this workshop, we will be identifying the recommendations we wish to go forth from our collective discussions.

Here are my views:

I believe very strongly that we should develop a national, statistically reliable system for the collection and dissemination of detailed workplace injury and illness information. The system should be developed, tested and implemented as soon as practical. It should provide details on the occupations and demographics of persons who were injured or became ill, on the nature of the injury or illness, on the parts of the body affected, on how it occurred, on the type of location and on contributing factors. Flexibility must be built in to incorporate changes in the definition of occupational injuries and illnesses as they occur.

I also believe that there should be developed industry-specific profiles containing details of that industrial sector's injuries and illnesses.

Finally, I believe that we should recognize the significant difficulties inherent in trying to classify illnesses as occupational and not let that stand in the way of establishing a fully effective occupational injury system now, coupled with "a best possible" occupational illness system that can be improved upon and upgraded in the future.

This new national system should require minimal legislative change, should not place undue burden on the data providers, nor result in unreasonable implementation costs, and should build on available data and data systems.

The time has come to move forward. Let us all then sit and reason together. Let us reach a consensus on occupational health and safety statistics. Let us identify what we need, why we need it, and how we can get it. Let us, at this first regional workshop, generate such momentum that when the recommendations from Moncton and Hamilton are amalgamated with those from Edmonton, our governments will respond and we will put in place a national Canadian system.

This is not an easy task. There will be many bumps in the road. Ladies and gentlemen, let us together take the next step down that road and do so with confidence. The beneficiaries of our endeavours are the workers of Canada. Fewer occupational injuries, fewer occupational diseases--a worthy goal.

Lillian Vine

Stan, that is a worthy challenge and I know that everyone here is prepared to work to meet it.

Our next speaker, Dr Tee Lamont Guidotti, holds the positions of Professor of Occupational Medicine in the Department of Health Services Administration and Community Medicine and Professor (Honorary) in the Department of Medicine (Pulmonary Division) at the University of Alberta Faculty of Medicine, Edmonton.

Dr Guidotti is a physician who is interested primarily in occupational and environmental health. He is engaged in the practice of internal medicine, specializing in lung diseases and in occupational medicine. His particular interests are occupational lung diseases, inhalation toxicology and the health effects of air pollution.

Dr Guidotti trained in clinical medicine and occupational medicine at The Johns Hopkins Hospital and received his public health education (the MPH degree) at The Johns Hopkins School of Hygiene and Public Health. He obtained his medical degree from the University of California at San Diego School of Medicine after graduating with honours from the University of Southern California in biological sciences. He has engaged in biomedical research at these institutions as well as the National Institutes of Health and elsewhere. He has extensive practical experience in consulting and program management. He has served as the medical officer of and principal consultant in occupational health to a variety of organizations, including a large multispecialty group practice serving many large and small employers, a medical products manufacturing firm, and the University of Alberta Hospitals.

Dr Guidotti has been deeply involved in issues of environmental quality since 1969 and has been active in occupational health since 1971. He maintains an active interest in the environment and issues related to work and health.

He has written most extensively on inhalation toxicology, occupational lung disorders, and occupational health services. He is the author or principal coauthor of over 80 published papers and is the recipient of many honours and awards.

Tee Guidotti - University of Alberta

Occupational monitoring and surveillance is a key issue that cannot be divided from occupational health and safety data gathering in general because it is this activity and this activity alone that allows us to capture information and data on occupational health problems as they are developing.

Let me discuss the strengths of the present system, the weaknesses of the present system and make some suggestions for the future. I will use as an illustration a research project that is typical of the sorts of projects that yield a great deal of new information in occupational health research.

Case Study: Occupational Health Research

We, at the University of Alberta, have been engaged in a prospective mortality study for four years. The occupation of interest of this study is that of firefighters. Firefighters present an ongoing problem in occupational medicine and there are many unanswered questions regarding their health risks. It is a practical issue of enormous importance to firefighters and their families, Workers' Compensation Boards, and public agencies. We wish to test certain hypotheses and concepts on the basis of data that deal with this particular group.

How is a study such as this conducted? First we need to identify the cohorts or group of individuals working in this occupation--that requires employment records. The quality of employment records is just as important as that of the other data sources that I will mention in determining the success or failure of these studies.

We identify current workers (all of whom we assume to be alive), and separated workers who once worked for the agency (we do not know whether they are alive or dead). We start with manipulation and linkage of the data--taking one source of data and merging it with another. In this case, there are several ways to find out whether an individual in a particular geographic area is alive or dead. One is to check drivers' licenses--most people will hold a driver's license until quite late in life, so the lack of one increases the probability of the individual being deceased. We chose instead to go through current registration for Alberta Health Care. This is trickier, but it served us well and we appreciated the cooperation we received from Alberta Health Care. This removed all who were known to be alive and left us with a group of status "uncertain."

We took this list to Alberta Vital Statistics. Our team collected death certificates to identify those individuals known to be deceased. We were able to collect the death certificates and compile a file so that we could study all the individuals collectively by cause of death. This allowed us to separate our group into a "known deceased" category and an "uncertain" category for most of the individuals on our original list not known to be alive. The availability of a cooperative Vital Statistics Registry containing data from death certificates of known quality standardized over several years was an enormous advantage. The stronger the data gathering and collection on the local or provincial level, the stronger the data base on which you rest all your conclusions and the integrity of the research project.

Those for whom we did not find a death certificate in Alberta, we took to the Canadian Mortality Data Base. This automated program exists specifically for this type of linkage, but the obstacles of accessing it are tremendous. And the cost is high--about $17 to check a name and about $95 per death we collected. When you are collecting hundreds of deaths, that cost becomes significant. We were also asked to make a deposit of $10,000 for these services. We submitted a tape of our subjects with personal identifiers which was processed by Statistics Canada; we got the information four months past the project deadline. From this information we were able to identify the cause of death for almost all our subjects, leaving only a small number as "uncertain."

We now have mortality by cause of death for these individuals. After 3-1/2 years we are only at the point where our technical expertise, our epidemiologic study designs and the creativity involved in scientific research comes into play. All of this was prologue--it took four years and tens of thousands of dollars just to get to this point. Another arm of the study was the requirement to have comparison data from the general Alberta population on deaths by cause by decade. We were astounded to find that we could not lay our hands on that data beyond about 10 or 15 years. We had to go back to Alberta Vital Statistics and accumulate this data and put it into a form we could use, which took us a year.

Situation Today

This is the degree of difficulty we encounter today in doing occupational health research using available data systems.

Several factors exist today that are most favourable to an improved occupational health and safety data system. First there is increased academic interest in occupational health and safety research and training. There is improved data management technology--we can handle massive data far more easily than we could in the past. Strong provincial emphasis is an advantage in data gathering, local trends and interpretation. The Canadian Centre for Occupational Health and Safety has to be commended for its bibliographic functions, depository functions and training and education functions. And Statistics Canada, as a data repository with its new linkage capabilities, standardization, expertise and coordination functions is a favourable factor.

But there are factors which inhibit the improvement of occupational health and safety data systems. They include the status of occupational health and safety research and training, improving data management technology, the strong provincial emphasis, the Canadian Centre for Occupational Health and Safety, and Statistics Canada. Those factors that help us most also hinder us.

The steadily growing interest means that we are competing for ever-diminishing funding resources for this kind of research. Our data management technology has led to fears about invasion of privacy, confidentiality and the degree of security of our computer systems. The presence of a strong provincial emphasis means that we have set ourselves up for conflicting priorities and obstacles to access. The Canadian Centre for Occupational Health and Safety, which plays such a major role facilitating this, also has a role as a hindrance. It could be that CCOHS' Chief Executive Officer's pronouncements on occupational health surveillance and monitoring have discouraged data collection and research. Statistics Canada is invaluable but the cost is very high. The quality of service and sometimes unresponsiveness to users' needs, objectives and constraints pose a very real problem.

Recommendations

What is the way forward? Occupational health data systems cannot stand alone; what is needed is a merging of existing data systems that crosscheck one another and that interdigitate into a complex but unified system.

Centralization of access to data whenever possible is necessary for coherent sustained occupational health research, but we need to decentralize control.

We need uniformity and standardization of common practices, but we need to do this not by a least common denominator approach. We need to identify those models that work best and adopt them widely.

We need to address and bury concerns regarding confidentiality so we can move ahead quickly without having to seek redundant permission at every level for every step we take.

We need to incorporate occupational health and safety items in national and regional surveys, such as the Canada Health Promotion survey, to collect group data and to provide a check for external validity on data collected by the occupational health and safety system.

If we are going to avoid duplication of data, we must design quality control mechanisms and quality control checks into our data gathering system. We either allow duplications so that we can check concordance or we have a quality control mechanism in the data system. Otherwise, we will be left with a single system of very questionable validity.

Finally, we need to develop a model system and demonstrate the effectiveness of each component as it scales up nationally. We need user input at all stages of the design of this model system.

I look forward to an ongoing process; I hope that Stan O'Shea's dream will become a reality, and that we will move toward a usable, accessible and appropriate national system.

OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOP

Moncton New Brunswick

May 24 and 25, 1989

PANEL DISCUSSION

* Horst Stiebert, Labour Division
  Statistics Canada

* Jim Gill, Canadian Automobile
  Workers' Union

* Victor Morin, New Brunswick Workers'
  Compensation Board

* Gerry Cluney, The Canadian
  Manufacturers' Association

* Gerald Blanchard, Atlantic Region
  Labour Canada

CCOHS/CCHST

Canadian Centre
for Occupational Health and Safety
With the assistance and support of the
Government of New Brunswick and Labour Canada

OCCUPATIONAL HEALTH AND SAFETY STATISTICS

A Regional Workshop

Wednesday, May 24 and Thursday, May 25, 1989
Hotel Beauséjour, Moncton, New Brunswick

Wednesday, May 24, 1989

8:15 am — REGISTRATION AND COFFEE - Mezzanine

9:00 am — Welcome and Introduction to the Workshop - Salon A
Lillian Vine, Manager, Committees and Workshops
Canadian Centre for Occupational Health & Safety

9:15 am — **Panel Discussion**

Statistics Canada looks at Occupational Health and Safety Statistics
Horst Stiebert, Chief, Labour Division
Statistics Canada

Labour looks at Occupational Health and Safety Statistics
Jim Gill, National Representative, Health & Safety
Canadian Automobile Workers' Union

Workers' Compensation Board looks at Occupational Health and Safety Statistics
Victor Morin, Director, Systems Development
New Brunswick Workers' Compensation Board

One Industry's use of Occupational Health and Safety Statistics
Gerry Cluney, Vice President
The Canadian Manufacturers' Association

Government looks at Occupational Health and Safety Statistics
Gerald Blanchard, Regional Director
Atlantic Region, Labour Canada

Open Discussion

10:30 am BREAK - Mezzanine

10:45 am **Workshop #1 -- Definitions of Terms**

a) What do you understand by the terms:
- accident
- incident
- injury
- illness
- accident investigation
- severity rate

12 noon LUNCH - Salon A

1:00 pm **Workshop #2 - Information**

a) What statistical information do you need to help in prevention? Why?
b) What would be good statistical information? For whom?
c) What can you learn from accidents?
d) What can you learn from injuries?
e) What can you learn from fatalities?
f) How public should the information be?

2:00 pm **Workshop #3 -- Accident Investigation**

a) What information do you need from accident investigation?
b) Is accident investigation consistent? Can it be biased? How? What can you do about it?
c) Does it adequately describe the sequence of events?
d) How can it be applied to similar jobs in other industries?
e) How is the information shared? interpreted?

3:00 pm BREAK - Mezzanine

3:15 pm **Workshop #4 -- Occupational Illnesses and Diseases**

a) What are the sources of information?
b) What information can you get from them?
c) What other sources would be useful?
d) Is there a risk to confidentiality?
e) How do you protect confidentiality?

4:15 pm **Workshop #5 -- Costs**

a) What can you learn from cost information?
b) How does fatality information help prevention of illnesses? serious injuries? all accidents?
c) How do you limit costs?

6:15 pm LOBSTER DINNER - Cocagne Marina
Hosted by Labour Canada
(Dress casually--bring a sweater)

Thursday, May 25, 1989

8:30 am COFFEE - Mezzanine

9:00 am **Workshop #6 - Homogeneous Groups**

Consideration of solutions
Preparation of report

10:30 am BREAK - Mezzanine

10:45 am **Plenary Session - Salon A**

Reports of Labour, Management, Professionals and Government
Recommendations from the Workshop

12 noon **Close of Workshop**

CM POINTS
The American Board of Industrial Hygiene will award 1 1/2 CIH Credit Maintenance (CM) Points for participation in this workshop.
CCOHS has applied to the Canadian Board of Occupational Medicine to have this workshop accredited for CME Study Credit Points. (CBOM awarded 10 hours of CME Study Credits to the preceding workshop in Edmonton.)

The Centre gratefully acknowledges the contributions of the government of New Brunswick, Labour Canada, and the New Brunswick Workers' Compensation Board.

PANEL PRESENTATIONS

Horst Stiebert - Statistics Canada

(Horst Stiebert made a presentation at each of the three workshops--the text appears on page 45.)

Lillian Vine

Our next speaker is Jim Gill. Jim was born and raised in Prince Edward Island and he soon looked for new worlds to conquer. So he came to Ontario, where he was most recently the Director of the Health and Safety Department for the Canadian Auto Workers' Union where he coordinated health and safety activities on behalf of the 160,000 members who work in all types of industry in all provinces and territories.

His activities in occupational health and safety started in 1973 with the Metro Toronto labour Council, when he initiated the first comprehensive worker health and safety training program at the Labour Studies Centre, Humber College. This program has evolved into the very successful Ontario Federation of Labour Health and Safety Training Program, which is the labour standard across Canada.

Through collective bargaining gains, he coordinated 40-hour health and safety training programs for over 12,000 CAW members, the largest undertaking of this type in the world. This evolved into an 8-hour Chemical Hazard/WHMIS training program for approximately 120,000 CAW members to date.

He is a member of the Canadian Labour Congress and Nova Scotia Federation of Labour Health and Safety Committees.

He was a founding Governor of the Canadian Centre for Occupational Health and Safety where he served on various committees and the executive Board. Jim had a vision for CCOHS and a commitment to that vision. Even though his term on Council ended three years ago, Jim still carries the CCOHS message across the country.

Jim also served as a Governor of the University of Toronto and participated on a founding committee of the Ontario Education Communications Authority, now TV Ontario. He serves on a Labour Canada/Canadian Labour Congress Health and Safety Regulation Setting program.

He now lives in Halifax, Nova Scotia, where he coordinates health and safety programs on behalf of his Union and its recently expanded membership in Atlantic Canada. He says he is preparing for retirement, I think he is looking for yet new worlds to conquer.
Jim Gill.

Jim Gill - Canadian Automobile Workers' Union

I want to thank CCOHS for the invitation to participate here and also to congratulate CCOHS and the planning committee for bringing about this most important workshop.

The title of this presentation is "Labour Looks at Occupational Health and Safety Statistics." We could have asked why we were interested in statistics; or whose statistics we are talking about; how they are to be used and for whose benefit. Certain groups are generally viewed as being major stakeholders in health and safety in Canada. Those are labour, government and employers. But, when it comes to the matter of health and safety statistics, there are different stakeholders. Organized labour has a love/hate relationship with statistics. We have a certain affection for statistics and their possible benefits; but we also have major difficulties with how statistics are used.

How are statistics used? You, the professionals, know about the sophisticated approaches, but you may not know that there are simpler approaches. Workers have their own approaches which are less sophisticated than the ones you are familiar with. Our approach brings in a wider spectrum of users and it brings some light to a larger group on the major shortcomings of number-crunching in occupational health and safety. We call this system "barefoot epidemiology." We have put together programs to teach workers how to use numbers to detect cancer in the workplace, for example. This is not the end-all of workplace protection, nor is it a substitute for good prevention programs. Nor is it a "make work" project for epidemiologists or scientists. And it is certainly not a refined statistical program. We thought it would be educational and that, in some cases, it could be used as an organizational tool. It would reinforce control programs and it would demystify the subject of statistics itself. It was hoped it could be used as an early warning signal. Labour's approach to the current use of occupational health and safety data in the workplace has always been skeptical.

We started to teach workers that numbers could be useful in their jobs. We felt it wasn't appropriate to stop when we were getting some results from numbers, but we felt that if we could not use them for a beneficial effect, the exercise may not be one we should be doing. Once we got some results from the studies, we started looking for causes in the workplace.

We developed a program that deals with the hazards presented by chemicals and other materials in the workplace. We didn't know that we were foreshadowing a program now known as WHMIS. Our program had some relation to the Hazardous Communication Regulation in the United States.

We have to think in terms of the causation of the numbers resulting from studies and how we can improve the numbers. Workers have learned some very important lessons from this exercise. We discovered there is unreliability of information, for example on certificates of death in Canada. Most of the information we were dealing with could not be relied upon to be accurate. We discovered a very poor quality of recordkeeping in general, which is something that has to be addressed and improved upon.

Another important discovery was the lack of similarity of records, not just across the country, but from industry to industry and from plant to plant. When we began, we fell into the trap of falling in love with the process; it is great to deal with numbers today because of the electronic instrumentation available. We started to ignore the real reason for the exercise--improving the condition of the workplace. We started to lose our sense of caution.

Our major difficulties were the reliability of the data, the method of compilation of the data, identifying the users of the data and what the data is used for.

In some workplaces, there are billboards and advertisements which give information about the frequency of injuries in that workplace. These are really lost-time charts. But ask a worker about those numbers and s/he will tell you that either the numbers are fudged or they really only deal with trauma cases and not illnesses. Most workers will tell you they are outright lies. But we depend on these numbers as the raw data which go to agencies collecting statistics. Raw data starts at the workplace--can we depend on the very people who put unreliable billboards in the workplace to supply reliable information to gathering agencies that funnel this information through the system to us?

As to the methods used to compile data, it is evident to workers that there is little or no consensus among professionals on things that should be extremely important.

Who uses these statistics? Is it the famous (or infamous) American Conference of Government Industrial Hygienists in the development of the Threshold Limit Values (TLV) and Biological Exposure Indices (BEI) publications? This was compiled on data supplied from workplaces. In the Atlantic region, it is <u>the</u> Bible; it is part of the legislation in all of the provinces. If we take a close look at how this was compiled, we are confronted with a sad history of distortion.

What is this data to be used for? We would like to think it was being used for prevention; but from our experience, it often is not. It can actually be used against workers--as in the case of Workers' Compensation Boards, which use the misleading information supplied to them to set definitions of how workers may obtain benefits in their jurisdictions.

A major problem is the incompatibility of information that flows from a source towards the organizations that compile it. It can be anything from the way Workers' Compensation Boards define "injury" to the way deaths are recorded in a specific jurisdiction.

I wish I could answer all the questions, but I don't have the answers; I will instead pose some fundamental questions often asked by workers and their organizations. One is why are we so anxious to have this data even when we know it is unreliable? Is it that we want to provide work for epidemiologists? Or is it sometimes used to convey a false sense of improvement? Or is going to be used to deny benefits to workers? If the answer to any of these questions is "Yes," is there anything to stop us from improving these exercises so that workers can look with confidence to the results of the tremendous expenditures and time and effort that goes into this work?

I have to confess to having fallen in love with numbers and data, notwithstanding the history of poor data, the history of misuse and my nervousness with the whole system. I would like to look toward an optimistic future where data on occupational health and safety is useful and used in a beneficial way. Please convince me.

Lillian Vine

Our next speaker is Victor Morin, Director of the Information Systems Department of the Workers' Compensation Board of New Brunswick since 1977. Victor's roles and responsibilities include the planning and execution of Information Systems Development, computer services (both technical and operational), systems support services, and Office Automation services for the Workers' Compensation Board and the Workers' Rehabilitation Centre.

He has represented the WCB of New Brunswick at several National Work Injury Statistics Workshops and as such is familiar with many of the issues concerning both data capture (what should be captured regarding a work injury, an industrial disease or a fatality) and the manner in which this raw data is to be processed so that it becomes meaningful information.

Victor holds a Master's Degree in Physics/Mathematics and a Bachelor of Education Degree. Before he joined WCB, he taught at the New Brunswick Community College in Saint John, l'Université de Moncton, l'Ecole Normale and the New Brunswick Community College in Moncton. Victor Morin.

Victor Morin - New Brunswick Workers' Compensation Board

My presentation is entitled "Workers' Compensation Boards look at Occupational Health and Safety Statistics."

I would like to give you an overview of the data related to occupational injuries that are collected by the Boards. When I speak of Workers' Compensation Boards, I do not want to limit myself to the New Brunwsick Workers' Compensation Board which I represent. After consulting with my colleagues from Newfoundland and Nova Scotia, I think I will be able to give you information that is representative of the other Maritime provinces as well.

I will begin by speaking on the data on actual occupational injuries, as opposed to claims data. We at the Workers' Compensation Boards see many differences between the two, and much emphasis is placed on one or the other of the two aspects of the raw data.

Secondly, I would like to speak on the process of data collection. I agree with Mr. Gill that this does not really take place at the Workers' Compensation Board, but rather at the site of the accident. So, Mr. Gill, I believe this is a very important point to pass on--that the Board uses only the data it receives.

Thirdly, within the time frame I have been given, I want to rapidly describe the data collected by the Boards, to give you an idea of what may be available to some agencies to whom we report this data.

Fourthly, I will deal with the process: how we go about reporting the data and to whom.

I have some important questions which I would like to draw to your attention. And lastly, I would like to draw some conclusions.

Let us begin with the data on occupational injuries versus claims data. The participants in this workshop should realize that the main goal of Workers' Compensation Boards is to administer the claims resulting from industrial injuries. My role in the organization is to collect data on the claims themselves to help us manage the various programs in New Brunswick, whether it be occupational rehabilitation or simply processing the claims which we receive.

I will limit myself to the data we receive on occupational injuries; occupational injuries and claims are not really the same thing. In most cases we supply raw information on work injuries, not on claims.

For data to be collected by a Workers' Compensation Board, there obviously has to be a claim. So that is observation no. 1: there must be a claim.

Observation no. 2: a claim may be submitted to the Workers' Compensation Board but not be accepted. So there may be a completely valid accident, injury, or occupational illness for which data may not be collected by the Workers' Compensation Board, for various reasons. Maybe the employer is not covered by the Workers' Compensation Board. Consider the two following questions: How many work injuries do you think occur without a claim being submitted to the Board? And secondly, how many claims for valid injuries or accidents are not accepted by the Workers' Compensation Board? It would be very, very difficult for us at the Board to answer these questions.

In New Brunswick, we collect data not only for the accidents with lost time but also for so-called minor accidents, that is accidents with no lost time, and fatal accidents. However, we do not report minor accidents to Statistics Canada. We keep a record of the exact date of the accident, but Statistics Canada needs only the month and year.

Occupational classification. The standard adopted was the 1971 manual of occupational classifications. The classification manual is supplied by Statistics Canada and is available in English and French to all Workers' Compensation Boards.

Accident type. We see categories such as being struck by, falls, bodily reaction, contact with temperature extremes. Depending on the type of accident, our encoders determine the appropriate code for a particular classification based on the manual.

Source of injury. There are classifications such as electric apparatus, hand tools, liquids, machines, scrap, debris. Quite a broad category--we see agents like brick, acids, alcohols, chemicals, hats, head coverings, carbon monoxide.

Nature of injury. Classifications such as electric shocks, fractures, multiple injuries, contagious diseases, infectious hepatitis, occupational illnesses.

Part of body affected. All parts of the body have been classified, from the skull to the toes.

Basic cause. I think this is one classification that is continually being reworked. Horst would probably agree with me that this category includes things like major fires, explosions.

Sex of the injured worker.

Classification of the employer's economic activity.
Classification of economic activities since 1980.

That will give you an idea of the data that is actually captured. Now, what do we do with it?

There are two major agencies to which we report this raw data. The data sharing that takes place in other jurisdictions is not quite the same as it is in New Brunswick, but the end effect is the same. We report on a monthly and quarterly basis to the New Brunswick Occupational Health and Safety Commission much more data than I have described here. We provide the Commission with all the work injuries statistics data plus much more cost of claims data, which we do not provide to Statistics Canada. We report to Statistics Canada once a year all the lost-time work injuries data. The problem we face now from the data user's viewpoint is that all the work injury statistics data is

absolute--nothing is relative, because we do not have a means of establishing the period of exposure of the worker from jurisdiction to jurisdiction. Unless and until you have it, that information is not as meaningful as it could be. And there are other warts that exist in the present system.

Lillian Vine

Gerry Cluney, our next speaker, is the Moncton-based regional Vice President of the Canadian Manufacturers' Association. He has held executive positions with all Atlantic Divisions (Newfoundland, Nova Scotia, Prince Edward Island and New Brunswick) of the Manufacturers' Association. Before that he was a Maritime Area Traffic Representative with CN Rail. He is active in the Atlantic export forums' movement and continues affiliations with regional fish processing, mining and metal-working sector associations.

He is a member of many industrial, trade and community boards and organizations, and he lives in Moncton. He was an active member of our planning group. He will speak about how industry looks at statistics.

Gerry Cluney - The Canadian Manufacturers' Association

Speaking as a representative from the Atlantic region for the Canadian Manufacturers' Association, my presentation will be broader in context than would have been the case with an employer presenter zeroing in on his specific sector. This gives me the opportunity to review the issue before us in a more horizontal manner from which practical specifics can and will flow during the workshop discussions.

The CMA, in its Issues Management Program, has recognized the need to develop a Canadian system for the recording, collecting and compiling of occupational injury and illness statistics. The availability of representative injury and illness data is fundamental to industry. It impacts directly on the ability to do business and to improve safety performance.

Members of CMA are committed to maintaining the pre-eminence of safety in the workplace and support the concept that safety is an integral component of all work processes. To ensure that continues, appropriate, relevant measures of safety performance are needed to assist in the identification of hazards and the assessment of risk.

Having so stated, what concrete steps has or is CMA taking to work toward the objective of having regularly available appropriate and accurate Canadian occupational injury and illness statistics that are usable by Canadian industry, labour and governments? CMA's strategy towards this end is to participate in these CCOHS workshops which we see as a constructive process to identify the needs of interested parties across Canada. Then through a specially-constructed task force, CMA is calling for the identification of those occupational statistics required by industry to develop a proposal for their recording and classifying. This would require input from other trade organizations with promotion of their participation in the development.

CMA's action plan calls for the tracking of developments with CCOHS, the American National Standards Institute, and the US Bureau of Labour Statistics, as well as keeping regional divisions of the Manufacturers' Association apprised and involved in the activity under way, and encouraging participation of other trade organizations and industries.

No comprehensive, consistent data collection system for occupational injury and illness statistics exists in Canada. A variety of information is available, but generally it is oriented to a specific sector or interest group. Appropriate, accurate, consistent and current occupational injury and illness data are vital to industry in developing a safer workplace. It is crucial that these needs be recognized.

The Chairman of CMA's National Task Force, Stan O'Shea, spoke to the Edmonton workshop in this series in March. He outlined what he saw as basic safety and occupational health data needs--needs that are common to federal and provincial jurisdictions.

Governments across Canada need timely and detailed information on the incidents that occur and the characteristics of work-related injury and illness together with the appropriate demographics of the affected workers to develop risk reduction regulations in an effective manner. For health hazards, there is a need to have data about the risks posed by exposure to chemical, biological and physical agents and the reduction of risk that could result from lowering levels. For safety hazards, regulatory action needs to be based on data on the number of injuries caused by a hazard, the number of workers at risk, and the factors contributing to the injuries.

Laws and regulations need to be obeyed by employers and employees and enforced appropriately. No government will ever have enough inspectors to cover every workplace all the time. The concept of targetting workplaces for inspection is an accepted practice. To do so effectively reliable, timely data is needed on the incidence of injuries and illnesses by industry, by the size of the establishment, by the type of operation, by the nature of exposures, by the safety hazards, and so on. Additionally, data on estimated exposure are needed for health hazards.

For studies to be possible, data must be available on the incidence and prevalence of injuries and illnesses and the conditions, exposures and factors that contribute to those events. Once occupational relatedness has been established, data is needed that can identify particular high risk jobs, operations or workplaces. Such research must give rise to effective workplace safety and health programs.

Data are needed by management, labour, researchers, and others, to evaluate the effectiveness of policies, audit activities and enforcement programs. There is a need to analyze trends in the incidence of injuries and illnesses in particular industries, operations and workplaces. Data are also needed that evaluate whether workplaces are becoming safer and healthier.

Employers are responsible and accountable for the prevention of injuries and illnesses in the workplace. To implement and improve on safety and health programs, national, provincial and industrial sector data are needed to compare with their own experience. Meaningful, timely data is needed to identify problem areas and causes, to track injuries and illnesses, and to audit and evaluate the effectiveness of particular programs.

No safety and occupational health program can be successful without the involvement of workers, whether they are in a union shop or not. Workers don't want to be hurt. Unions have safety and health as a key issue; so workers and unions have data needs that are similar to the needs of employers and others. Data are needed to help employees understand the types of accidents and exposure risks within their specific industry or occupation and to identify potential risks in their own workplace.

It seems clear that a reliable national system for the collection and dissemination of detailed workplace injury and illness information should be developed. Such a system should provide details on the occupation and demographics of persons who are injured or

become ill, the nature of the injury or illness, the part of the body affected, how it occurred, the type of location and contributing factors. There should also be developed industry-specific profiles containing details of that industry's injuries and illnesses.

The CMA agrees that the time has come for all stakeholders to work together. We hope that out of these presentations and our exchanges to follow will come the basis for a workable and supportable common approach.

Lillian Vine

Gerry Blanchard is Regional Director, Labour Canada, Atlantic Region based in Moncton. He is a graduate of l'Université de Moncton and has completed several post-graduate courses in Industrial Relations and General Management. He obtained a Diploma of Management from McGill University and a Diploma in Hospital Organization Management from the Canadian Hospital Association.

He began his career in 1966 as a Personnel Supervisor at the Canadian Industries Ltd Explosives Plant in Beloeil, Quebec. He worked for several years for Petrofina Canada Ltd in various Industrial Relations positions, including the position of Personnel Manager of the Petrofina Refinery in Pointes-aux-Trembles, Quebec.

He returned to Atlantic Canada in 1975 to assume the position of Personnel Director at the Dr Georges L Dumont Hospital in Moncton, a position he held until accepting his present position with the federal government in 1979. Gerry has taught courses in Labour Relations on a part-time basis at l'Université de Moncton and has been active as a presenter and/or resource person in several Labour Relations forums throughout the Atlantic provinces.

In addition to his regional responsibilities, he has been very active in some major Labour Canada national initiatives, such as acting for two years as the National Leader of the Working Group on Compliance, a special assignment for which he received a Government of Canada Incentive Award.

He is a past president of the Big Brothers/Big Sisters Moncton Chapter and has served on the board of various agencies in the Moncton area. He is the past-president of the Federal Institute of Management, Moncton, New Brunswick Chapter. He too was a member of the planning committee for this workshop and a tremendous help throughout. And, he is our host for this evening.

Gerry Blanchard - Labour Canada

Ladies and gentlemen, I would like to thank the Canadian Centre for Occupational Health and Safety for inviting me to participate in this workshop on occupational health and safety statistics. I am glad to work together with an organization that plays such an important role in sensitizing people to occupational health and safety in Canada.

It gives me great pleasure to be here and to take this opportunity to discuss with you what I think is a very important subject. I would like to congratulate the Canadian Centre for Occupational Health and Safety for initiating and organizing this important regional workshop. Labour Canada, together with the Government of New Brunswick, was pleased to assist and support this event as we believe there is an immense value in

bringing together people who are charged with the vital task of delivering programs, services and activities related to the health and safety of Canadians in their workplaces.

Before we get too comfortable with how we are doing and the progress we have made, I would like you to recall that only a few weeks ago on April 28, Canada's Labour movement held its National Day of Mourning to bring attention to the large number of accidents that still occur in the workplace. On that occasion our Minister of Labour, the Honourable Jean Corbeil, paid tribute in the House of Commons to the many Canadian men and women who had become victims of work accidents and to the many other workers who are still suffering from occupational injuries and diseases. We know, unfortunately, that in Canada there are still more working days lost through injuries and accidents in the workplace than through labour disputes or anything else. It is unacceptable that more than 800 Canadians lost their lives last year because of accidents on the job. It is also unbearable that more than 1 million workers suffer from employment-related injuries and loss of health. This human suffering adds up to an annual cost of more than $14 million to the national economy and this is just the tip of the iceberg. Many occupational accidents go unreported and identifying work-related illnesses is still a difficult and controversial issue.

All of us here today share the same ideal of eliminating workplace accidents and occupational illnesses. For this to happen, we must all work together--employers, workers and governments--to improve our information systems from the prevention point of view.

The problem is enormous. We need information to establish priorities that will help us to address those areas where the number of accidents and illnesses are the highest. From a government perspective, establishing priorities can help us in allocating our scarce resources in the most efficient manner. In Labour Canada, we want to make sure that our Labour Affairs officers are deployed in a manner that will achieve the greatest impact. Provincial officials have the same problem and the same objective.

To be able to do this, we need to understand the nature and source of work-related accidents and illnesses. We need to know their number, where they occur the most often, and what industries and occupations are inherently more dangerous. We can do this through the analysis of statistics and other information which we already keep on work accidents and illnesses and also by analyzing those statistics kept by other governments and countries.

For regulatory agencies, such as Labour Canada, accurate health and safety statistics are fundamental to our work. Without them we would be hard pressed to decide how to tackle our fundamental objective, which is to ensure safe workplaces for Canadian workers.

We have come a long way in ensuring safe workplaces in Canada. On the federal scene, specific regulations were promulgated in 1968 to ensure that the vitally important issues of accident prevention and workplace safety were addressed. The Canada Labour Code established the principles that define employer/employee and government relations and responsibilities in this area. In 1978, further amendments to federal occupational safety and health legislation gave employees the right to refuse to work when there was imminent danger. Further amendments took effect in 1986 and gave more impetus to the trend toward active cooperation and involvement by both employers and employees in preventing occupational injuries and illnesses. Today, most provincial legislation has been strengthened and contains the same basic rights.

In most cases employers must inform their employees of all known or foreseeable dangers related to their work. And employees now have both the right and the privilege to participate in identifying and solving occupational health and safety problems and in implementing policies in this area.

More specifically, as a result of many of these changes, workers now possess the three basic rights: to refuse, to know, and to participate for safer and healthier workplaces.

Just last October, federal, provincial and territorial governments introduced WHMIS, the Workplace Hazardous Materials Information System. This should contribute substantially to the reduction of some of the workplace accidents and illnesses. WHMIS is an information system--the most advanced in the world. It is also a communication system based on the assumption that the awareness that comes with the availability of information is the key to prevention. Our need for a better system to compile and share occupational health and safety statistics is based on the same assumption and shares the same objectives as the WHMIS system. The WHMIS system was developed in cooperation with business and labour, and it is an excellent example of what consultation and consensus-building within our country can lead to. If we can develop a commonly acceptable workplace hazardous materials information system, why can't we do the same for occupational health and safety statistics information systems.

Much still needs to be done to improve our statistical systems in relation to the gathering and use of occupational health and safety statistics. Various information linkages have been established between various levels of government, compensation boards and organizations such as the Canadian Centre for Occupational Health and Safety. However, in spite of these linkages, we still do not have a comprehensive, uniform set of occupational health and safety statistics available to everyone who needs it. Causal data is almost entirely missing. Some employers, who are required by federal or provincial laws to report accidents, do not always report them all. If they report, they often do so in an untimely or incorrect manner. Illness and disease information is highly suspect and is probably grossly underreported. Most causal data received is incomplete and focuses on the final events before an accident, rather than the contributory causes. The result of these deficiencies in our occupational health and safety systems is an inability to focus accident, illness and disease prevention programs as accurately and efficiently as we should. As regulatory bodies, we are often in a more or less continual crisis response to accidents, lacking information on which to base more effective policies in priority-setting decisions, and we sometimes lack the ability to correctly forecast future priorities and the directions in which programs would be best directed.

From a government perspective, it would be ideal to expand our present standards and develop a uniform national standard collection and dissemination system for occupational health and safety statistics. Such a national system would have to expand on established systems and include the reporting and recording of good causal information. To develop such a system, standardized terminology with consistent definitions would have to be adopted. An objective of the development of a national system would be to incorporate occupational illness and disease information. This would be a substantially more difficult task than establishing a national system only for the capturing of physical injury information. Because of such complications, it may well be that any system we attempt to build should be done in phases over a period of time.

We need to start getting our act together as soon as possible, so that we can agree on some common denominators and become part of a solution instead of continuing to be part of the problem. Some say economists use statistics the way an intoxicated person uses a

lamppost--more for support than for light. We must avoid the trap of using statistics for supporting our own positions; we must use occupational health and safety statistics for information that will assist us in a common manner and for our mutual benefit in the workplace.

We have a need for accurate statistical information to assist in our common goal of prevention. I believe that a uniform national system is required to fill this need. The impetus for establishing a national standard and system requires the commitment and support of all involved--governments, employers and employees. This can only be achieved through a consultation process and a mutual agreement to improve our collective basic understanding about the needs and uses of occupational health and safety statistics and to improve our data gathering and sharing to better serve prevention purposes.

We need to broaden our perception of occupational health and safety statistics. To gather data that will favour prevention, we need to discuss the limitation and consequences of our current strategies. Together, we need to study our needs in occupational health and safety, identify needed improvements in relation to occupational health and safety statistics, and find solutions. Those are the objectives of this workshop.

As the agenda says, this workshop will give us the opportunity to discuss some important issues together, define some areas of agreement, some areas that need further discussion and to take this opportunity to come up with some recommendations for the future. This workshop will not give us all the answers, it will not give us instructions and it will not allow us to be passive listeners. Let us now switch from a passive mode to an active mode.

Lillian Vine

In the decade since CCOHS was created, information has become a prime strategy in occupational health and safety. Because people knew and understood the hazards they could do something about them. That is the vision and the commitment that people such as Jim Gill worked for right from the very start of the planning for CCOHS. Information was going to be the strategy in occupational health and safety; that is our major role. Chemicals were going to be bringing many questions because they were a very important concern. We were working on chemicals long before WHMIS, and it is a good thing we had a headstart because WHMIS has brought us an avalanche of business.

We hope that these workshops that bring you together to discuss major issues on occupational health and safety have tas good a result as our information work; that they provide the forum Canadians in governments, labour-unionized and non-unionized, management, and professionals tell us they vitally need.

I wish you good luck in your discussion groups. The first workshop on definitions was suggested at the Edmonton workshop. Participants wanted definitions so that everyone would speak the same language; our planning group thought it important to explore definitions that were acceptable to all of you. Perhaps that will establish a standard that would be accepted throughout Canada.

OCCUPATIONAL HEALTH AND SAFETY STATISTICS WORKSHOP

Hamilton Ontario

September 19 and 22, 1989

PANEL DISCUSSION

* **Horst Stiebert, Labour Division Statistics Canada**

* **Linda Jolley, Ontario Federation of Labour**

* **Jack Bedggood, The Canadian Manufacturers' Association**

* **Robert Kosnik, Occupational Health Physician**

CCOHS/CCHST

Canadian Centre
for Occupational Health and Safety
With the assistance and support of the
Government of Ontario

OCCUPATIONAL HEALTH AND SAFETY STATISTICS

A Regional Workshop

Tuesday, September 19 and Wednesday, September 20, 1989
The Royal Connaught Hotel, Hamilton, Ontario

Tuesday, September 19, 1989

8:00 am REGISTRATION AND COFFEE - Foyer

8:45 am Welcome and Introduction to the Workshop - Connaught Square
Lillian Vine, Manager, Committees and Workshops
Canadian Centre for Occupational Health & Safety

9:00 am **Panel Discussion**

Statistics Canada looks at Occupational Health and Safety Statistics
Horst Stiebert, Chief, Labour Division
Statistics Canada

Labour looks at Occupational Health and Safety Statistics
Linda Jolley, Director, Occupational Health & Safety
Ontario Federation of Labour

One Industry's use of Occupational Health and Safety Statistics
Jack Bedggood, Manager, Corporate Safety
Tricil Limited

Where Occupational Illness and Disease Statistics Fit into the Picture
Robert Kosnik
Occupational Physician

Open Discussion

10:30 am BREAK - Foyer

10:45 am **Workshop #1 - Definitions of Terms**

a) Do you support the attached definitions? Why or why not?
b) What other terms should be defined and how? (e.g. severity rate, frequency rate)

11:15 am **Workshop #2 - Information**

a) What statistical information do you need to help in prevention? Why?
b) What is the minimum essential statistical information?
c) What can you learn from accident, injury, and fatality statistics?
d) How public should the information be?
e) How can it be used in the workplace? How can it be applied to similar jobs in other industries?

12:30 pm LUNCH - Burlington Room

1:30 pm **Workshop #3 - Accident Investigation**

a) What information should be collected from accident investigation for national statistics?
b) How do you adequately describe the sequence of events?
c) What consistent accident investigation procedure could be used to provide good statistical information?
d) How is the information shared? interpreted?

2:30 pm **Workshop #4 - Occupational Illnesses and Diseases**

a) What are the sources of information?
b) What information can you get from them?
c) What other sources would be useful?
d) Who should have access to the information?
e) How do you protect confidentiality?

3:30 pm BREAK - Foyer

3:45 pm **Workshop #5 - Costs**

a) What can you learn from cost information?
b) What are the costs of injuries and illnesses? How are they expressed and measured?
c) Should cost information be included in a pan-Canadian reporting system and if so, in what way?

4:15 pm	**Workshop #6 - Homogeneous Groups of Management, Labour, Government and Professionals** Consideration of Solutions and Recommendations
5:45 pm	Assemble in lobby for transportation to Ancaster Old Mill for dinner
6:00 pm	CASH BAR
6:30 pm	DINNER hosted by Ontario Ministry of Labour

Wednesday, September 20, 1989

7:45 am	COFFEE - Foyer
8:15 am	**Workshop #7 - Homogeneous Groups** Preparation of report
9:30 am	**Plenary Session - Connaught Square** Reports and recommendations of Labour, Management, Professionals and Government
10:30 am	BREAK - Foyer
10:45 am	**The Way Forward - Open Discussion** Summation of agreements from Edmonton, Moncton and Hamilton - Lillian Vine Priorities Recommendations from the Workshop Action Plan
12:30 pm	**Close of Workshop**

CM POINTS
The American Board of Industrial Hygiene will award 1 1/2 CIH Credit Maintenance (CM) Points for participation in this workshop.
CCOHS has applied to the Canadian Board of Occupational Medicine to have this workshop accredited for CME Study Credit Points. (CBOM awarded 10 hours of CME Study Credits to the preceding workshops in Edmonton and Moncton.)

CCOHS gratefully acknowledges the contributions of the Government of Ontario.

PANEL PRESENTATIONS

Lillian Vine

Our first speaker is Horst Stiebert. Horst has been involved in this process from the beginning and was a speaker at the Edmonton and Moncton workshops. Horst is with Statistics Canada where he is responsible for directing the collection, preparation and release of unemployment insurance data, the Help-Wanted Index (a measure of labour demand), and work-related injury and illness statistics. In 1982, Horst became responsible for the National Work Injuries Statistics Program. This is a cooperative arrangement under which provincial and territorial Workers' Compensation Boards supply data on accepted permanent disability and time-loss claims for work injuries to Statistics Canada. Statistics Canada then compiles and publishes the data according to established standards. Among other things, Horst developed a national data base and implemented a publication program for these statistics.

Horst has a Master's Degree in Economics from Simon Fraser University in Vancouver, and a Master's of Business Administration degree from York University in Toronto. He has worked as a researcher and analyst in a number of capacities for Statistics Canada and the Ontario Ministry of Labour.

His current interests focus on the development and improvement of statistics which relate to occupational health and safety. This includes the establishment of appropriate standards as well as the uniform and consistent use of those standards, and exploiting existing or developing new data sources to eliminate information gaps. Horst Stiebert.

Horst Stiebert - Statistics Canada

I would like to tell you about Statistics Canada's involvement with occupational health and safety statistics. Let me state what I mean when I use the term "statistics." Statistics are sets of numbers which have been ordered and which permit us to draw generally valid conclusions. Without this ordering of facts or data, it would be difficult to make even simple day-to-day decisions. I can only agree with Lord Kelvin when he stated "When you can measure what you are speaking about, and express it in numbers, you know something about it. But, when you cannot measure it in numbers, your knowledge is of a meager and unsatisfactory kind."

Of course, if we are not careful, conclusions based on the best statistics can be erroneous and misleading. For example, some time ago there was a researcher who studied fleas. After collecting enough specimens for a representative sample, he very carefully started to remove the back legs of the first flea and commanded it to jump. Nothing happened. The researcher repeated the experiment, and again nothing happened. After he had studied all his subjects, he wrote his report and concluded with confidence, statistical and otherwise, that the flea's ears must be located in its back legs.

Despite such nonsensical inferences, statistics are part of our daily lives. Ordered information is essential for making decisions. Over the next two days we will address

issues of statistics on occupational health and safety. This will involve questions such as "What are the data needs? What are the data gaps? What improvements can be made?" I am fortunate that I had the opportunity to participate in the two previous workshops. Both in Edmonton and in Moncton, I felt there was a genuine desire to cooperate, and there was considerable enthusiasm to establish a national statistical system useful for the prevention of accidents. I agree there is an urgency to develop such a system because we have only little information on occupational illnesses or data which tell us why accidents occur. I believe dialogue such as we will have over the next two days is an essential step towards achieving what needs to be done.

I am responsible for the National Work Injuries Statistics Program--a statistical system which collects data from provincial and territorial Workers' Compensation Boards. Frequently we receive calls which require very specific answers. For example, the caller may ask, "In Hamilton, in 1988, how many window washers fell from scaffolds and died?" We then have to explain that we do not have sub-provincial data and that window washers are included in an occupational group called "janitors, charworkers and cleaners." At this point, the caller may hang up in frustration. I do not blame the caller for being frustrated; but should one expect this level of detail from a large and general statistical system?

Statistics as a science imposes order on data or facts. To achieve this order, standards are required. A standard may be defined as something which has been approved by an authority or has been accepted by general consent. In my experience, the more detailed a standard is, the more problems will be encountered. Indeed, classification problems seem to expand exponentially as the number of categories increases.

Statistics and data are not the same. Statistics are ordered aggregates whereas data are an assortment of facts. This means that statistics may lack detail because of restrictions imposed by standards and coding structures. They may not be timely for certain purposes; the data need to be compiled, manipulated and published. They may appear inflexible because we can generate only certain tabulations. The strength of statistics lies in the availability of a large number of facts which have been ordered according to accepted standards. Therefore, statistics provide perspective, create awareness, indicate magnitude, show trends and identify patterns. Most important, statistics permit the user to draw generally valid conclusions.

The National Work Injuries Statistics Program is a cooperative arrangement under which the provincial and territorial Workers' Compensation Boards supply data on accepted time-loss claims for work injuries. Statistics Canada is responsible for the coordination and the establishment of standards and their maintenance, and for the processing and release of the data. The standards are published in the "Canadian Work Injuries Standard" and appropriate definitions are shown in our publication "Work Injuries." These definitions and standards are not perfect, but they provide a basis for future improvements.

We now receive data from 11 Workers' Compensation Boards. The data are published annually and we plan to release the 1988 data before the end of 1989. The data shown in our publication represent the tip of the iceberg because we also have a data base which can be used for special retrievals meeting specific user requirements.

The standards used by the National Program are as follows:

Occupations: Occupational Classification Manual, 1971.
Industry: Standard Industrial Classification, 1980.
Injuries and Illnesses: Canadian Work Injuries Standard. This standard, based on the now defunct Z16.2 ANSI standard, was extensively revised for the coding of 1989 data. It was selected because it is easy to use and because it permits the coding of information on nature of injury (46 codes), part of body injured (66 codes), source of injury (327 codes), and type of accident (99 codes).

Also in place is a mechanism to interact effectively with our data suppliers. We meet at least once a year with officials from the Workers' Compensation Boards to discuss issues relevant to the National Program. This enables us to obtain and to publish timely data, to improve data quality and to plan data enhancements, including the collection and dissemination of new data items. We have a growing time series of work-related injuries and illnesses which begins in 1982. While the statistics are not perfect for all purposes, they provide a solid base for further improvements.

The National Program is operational but there remain some data gaps. Frequently demanded statistics are injury rates, measures of severity, estimates of cost, fatality counts and information on accidents. We have not been able to produce these statistics; however, we are discussing with officials from the Workers' Compensation Boards the feasibility of producing and publishing injury rates, number of days or weeks compensated, and fatality counts.

One major data gap in accident statistics, that is why the accident occurred. These data are critical for implementing new, and monitoring established, accident prevention programs.

As a statistical agency, our mandate is to provide relevant information, that is, statistics which are required by our users. It is very important to establish and maintain contact with the user community and I therefore welcome the opportunity to participate in these workshops.

To meet the needs, I would like to see two things emerge from this workshop. First, a clear identification of issues, concerns and problems relating to occupational health and safety statistics. Second, a plan or strategy for future action. To be useful, statistics must be relevant; to be relevant the users of the statistics must identify their requirements to the data suppliers. Users must agree on data needs, acceptable levels of data quality, data standards, and perhaps most important, they must agree on priorities. Without a clear direction from the user community, it is unlikely that the existing fragmentation of sources and standards for occupational health and safety information can be reduced and that data gaps and data inconsistencies can be eliminated. Of course, the demands must be reasonable. Requests for additional resources could not come at a worse time because government funding will not be forthcoming unless it can be demonstrated that the savings will equal or exceed the cost of the undertaking. A first step for future action is to create a mechanism which will permit ongoing and effective interaction between data users and data suppliers. Both must participate in the endorsement or rejection of specific standards and activities, and they must communicate their decisions and findings to the appropriate places.

The challenge for this workshop is to map out a strategy for future action.

Lillian Vine

Our next speaker, Linda Jolley, represents Labour. Linda has been the Director of Occupational Health and Safety of the Ontario Federation of Labour since September 1986. She is responsible for presenting labour's position and assisting in the development of policy in all issues of occupational health and safety.

Before joining the staff of the Ontario Federation of Labour, Linda worked as a consultant to the labour movement writing training materials in health and safety and workers' compensation, and developing briefs to government. During that time, she worked as a consultant to the Canadian Labour Congress; sat as a member of the Steering Committee and several technical committees on the national Workplace Hazardous Materials Information System (WHMIS); and carried out several research projects for the Canadian Centre for Occupational Health and Safety.

Linda was the original coordinator of the Ontario Federation of Labour's Health and Training Centre, and was responsible for the development of the 30 hour Level I and Level II training programs offered by the new Workers' Health and Safety Centre funded by the Ontario Workers' Compensation Board. Linda is a Governor of the Canadian Centre for Occupational Health and Safety, a member of the Industrial Disease Standards Panel, and the Labour Chairperson of the new Joint Steering Committee on Toxic Substances in the Workplace, initiated by the Ministry of Labour.

Before working directly with the labour movement, Linda worked as a research associate to Stephen Lewis, the former Leader of the Ontario New Democratic Party.

Linda Jolley - Ontario Federation of Labour

I would like to congratulate Lillian Vine, the planning committees and the Canadian Centre for Occupational Health and Safety for these excellent regional workshops.

Labour has traditionally had a love/hate relationship with statistics in occupational health and safety. Our fight to improve health and safety legislation and toxic substance and hazardous physical agent regulations has always included the numbers of workers affected. In our present Ontario Federation of Labour campaign to pressure the Ontario government to improve our Occupational Health and Safety Act, we have actually erected a billboard outside our building where we continue on a monthly basis to record the numbers of accidents and of workers who are killed and injured on the job. Our health and safety submissions to government are always filled with the growing numbers of deaths and serious injuries on the job. We comb epidemiological literature for further evidence to support our case for better compensation, better regulation, and proper testing of toxic substances.

Behind each one of these numbers is, unfortunately, one of our brothers or sisters in the workplace, with a family and friends who also suffer. Too often statistics, especially in the field of occupational diseases which grossly underestimate the true toll, are used to focus priorities away from occupational health regulations. As a user of statistics, labour's main concern is prevention, but we also use statistics to win compensation.

One of the major problems in health and safety statistics across Canada is that the information is collected for purposes other than prevention. By and large the sources of

statistics in health and safety are the Workers' Compensation Boards across Canada. But their major purpose is not the development of information, it is the provision of compensation for deaths, injuries and illnesses. The rules in each jurisdiction can change from time to time, so fewer or more workers affected can fall within the claims accepted and become the statistic in our national reporting system. For example, in Ontario we recognize lung cancer related to asbestos when there is a clear and adequate history of a minimal latency period of 10 years from the time of first exposure. On a case-by-case basis, we will consider those that fall outside this criterion. But before 1979 the recognition of asbestos-related lung cancer also required the presence of asbestosis, so that in one policy directive by our Workers' Compensation Board, many more lung cancer cases were recognized. That did not mean there was suddenly more lung cancer, just that it was differently defined.

Ontario recognizes laryngeal cancer connected to exposure to asbestos and nickel, while other jurisdictions across Canada do not. This doesn't mean that Ontario has more cancer victims, it just means we recognize it.

The severity of injuries measured by the length of time lost from work or the amount of compensation provided for the claim can be directly affected by policies of the Workers' Compensation Board limiting eligibility and employer practices whereby injured workers may be brought back into the workplace for light work.

One of the major problems in producing accurate statistics from Board claims is the effort being made by many Boards to develop experience rating systems, where employers experiencing numbers of claims beyond the average within their employer class will suffer a surcharge or penalty assessment. While policy makers feel that experience rating will impact on prevention by pushing employers to lower their accident or severity rate, there are unfortunately several ways to skin that cat. Our experience with experience rating in Ontario is that employers tend to fight workers' claims more vociferously, and even engage in schemes to get workers not to report. Indeed, in some of the big plants, workers have been encouraged to go on sickness and accident benefits to overcome some of the hassles they have in applying and fighting for compensation. This in turn reduces that employer's actual compensation experience. At a recent task force hearing on workers' compensation, one union estimated that as many as 60% of the claims in their plant had been hidden by one or more of these schemes.

The purpose of this discussion is not to criticize experience rating, but to point out that yet another purpose intended by the Board may impact directly on the numbers of injuries and illnesses reported. When information systems are based on employer reporting, influences such as penalty ratings or prosecution (in the case of requirements under our Health and Safety Act for employers to report fatalities or critical injuries within 48 hours or other injuries or illnesses within 4 days) may in fact produce under-reporting for statistical purposes.

Injury information collected by the Boards has relatively little information, if any, about causation. Work injury coding systems used by the Boards record only the nature of injury, the part of the body, the type of accident and its source. It allows for the coding of only one event leading to the injury whereas it is usually a series of events that leads to an injury in the workplace. The systems have been widely criticized, but it is important that we use these systems to flag the point where we have to look further. Ontario has a tripartite advisory council on occupational health and safety that involves employers, labour and academics. This council looked at injury reporting

and recommended that, to direct public policy in prevention, there should be a three-tier approach to gathering accident statistics. The first tier would be the simple universal system that collects such descriptive data as are being collected now. We want to address those areas of highest numbers and most serious accidents and this would enable us to single out the industries and occupations where the rate of accidents and injuries is highest. The second tier would look more carefully and try to single out those accidents that produce the most harm to the workers affected. The third tier would be a massive accident investigation of a limited number of accidents so that we could look at the causes behind it. Some of our preventive and legislative reforms could address those issues.

For the workplace prevention program, it is essential that our work joint health and safety committees participate in the investigation of all accidents and near-misses. Right now, the law restricts joint committee accident investigation to fatalities or critical injuries only. All accidents and near-misses provide incredibly useful information for workplace prevention programs. Thorough accident investigation also requires good training and forms that force committees to look beyond the immediate cause to contributing causes including work organization factors, such as rotating shift work, job design, environmental factors, and even employer/employee relationships.

It is in the area of occupational diseases that the lack of reporting and accurate statistics is especially rampant. In Ontario, we are constantly being reminded that only 1% of our claims are for occupational diseases and only 3%-4% of our lost time claims are for diseases. So, our attention must remain on safety. It is dishonest to use workers' compensation statistics in disease to set our priorities in occupational health. Paul Weiler looked at our compensation of diseases in Ontario (and Ontario is one of the leaders in disease compensation) and pointed out the disparity in compensation figures in the general backdrop of accident and illness statistics in the general population. The fact is that 80% of the premature deaths among all Canadians are from illnesses and not accidents; that 95% of the recipients of total disability benefits from the Canada Pension Plan are for diseases and not injuries; that in Ontario only 10% of all deaths were due to accidents and not diseases, while 73% of the deaths were actually due to three major diseases--cancer, respiratory disease and heart disease, all of which can be connected to work--indicates that there is something very wrong in the workers' compensation reporting system.

When Weiler took the conservative Doll and Peto estimate that 5% of all cancer deaths may be in fact related to the workplace, he stated that as many as 700 Ontario workers may die each year as a result of occupational cancers. Yet, our Board at that time was recognizing on an average only 65 cancer cases each year, 40 of whom had died. That means that only 1 in 17 deserving cancer deaths had actually received compensation and therefore, only 1 in 17 deserving cancer deaths appears as a statistic in our reporting system. We consider the 5% estimate extremely conservative, given the number of industries like mining that are producing a great deal of cancer in this province.

There are many reasons for such gross underestimation of occupational diseases--exposures of more than 20 years ago are unknown, there is little information about the toxic effects of 80% of the chemicals used in workplaces today, physicians are untrained to recognize the connection to the workplace, and workers don't know that they may be eligible for compensation. All of these factors affect statistics. The issue of workers not knowing is crucial; in the United States Peter Barr found that only 29% of asbestos insulators actually applied for compensation when they developed diseases that might be related to working with asbestos. In Canada only 27% of asbestos insulators applied for compensation. In the case of asbestos-related deaths, less than 50% in the US and in

Ontario, where asbestos disease and asbestos death were front page news for many months, only 43% of the survivors had actually applied for compensation. Not all who applied might have received compensation, but this affects the statistics.
Disease claims in Ontario suffer rates of rejection far beyond accident claims; 22% of accident claims are rejected in Ontario. But with few diseases actually recognized and the very stringent adjudication guidelines that the Board uses to determine who has an occupational disease and who has not, 50% of the occupational cancer claims are rejected in Ontario; 57% and 59% respectively of silicosis and asbestosis claims are rejected out of hand in Ontario; 76% of cardiovascular claims are rejected. All of this impacts on the under-reporting of occupational diseases across this province. We have a situation in Ontario in one plant that deals with isocyanate foam spray. The entire plant is exposed to isocyanate which is a serious lung sensitizer. There are people who have had to be removed from that workplace because it was determined to be unfit to work in under the designated substance regulations due to the exposure to isocyanates; yet not one of these workers appears in the workers' compensation statistics because they are not disabled from working, simply unable to work there. We have several indexes or master files identifying disease claims of workers engaged in specific occupations. We clearly need to look at setting up more registries of workers exposed to hazardous materials and we need to look at linking the exposure data we have on disease. We need occupational histories on death certificates and we need more accurate death certificates. In the asbestos study by Irving Selikoff, almost one-third of the death certificates had not represented the true cause of death, which is a problem in occupational disease epidemiology.

We also need more cost statistics of occupational accidents and injuries. Employers and governments seem to understand cost information of such tragedy more directly. In Ontario in 1987, we spent $1.4 billion on direct compensation as a result of injuries, illnesses and deaths on the job. That could mean as much as $6 billion to $10 billion lost to the economy in retraining and indirect costs. We lost 7 million days of production in Ontario in 1987 as a result of occupational injuries, deaths and illnesses on the job. That was 7 times more than the days lost to production as a result of industrial disputes. We need a national reporting system for occupational accidents and injuries and diseases, but we have information now. The problem in preventing accidents and illnesses on the job is not that we know too little, but that we do too little. A push for better health and safety statistics, while very important, must not be used to postpone action, because our very lives depend upon it.

Lillian Vine

Our next speaker is Jack Bedggood representing management. Jack holds a B.E.Sc. from the University of Western Ontario. He has been employed by DuPont as a corporate safety consultant, by Canadian Pacific Trucks as the Corporate Director of Occupational Health and Safety, and is now with Tricil Limited as Manager of Corporate Safety. Jack belongs to the Association of Professional Engineers of Ontario, is on the Board of Certified Safety Professionals of the Americas, Inc, belongs to the Canadian Society of Safety Engineers and the Canadian Fire Safety Association. He is an honorary Life Member of the Industrial Accident Prevention Association (IAPA) of which he is a past Director and Chairman of Section, Division and Chemicals. He is a past Director of the Transportation Safety Association.

Jack Bedggood - The Canadian Manufacturers' Association

On April 7 of this year, I memoed my boss on the subject of "Uniform Occupational Health and Safety Statistics." I asked for his approval to devote some of my time and energy to this external activity as a member of the Canadian Manufacturers' Association's occupational health and safety committee's task force on the issue. My boss agreed.

While I have just recently become more active, along with many others, in this matter, it is by no means a new interest for me. While the program indicates that this address is "One Industry's Use of..." I have titled my remarks "To Build a Better CHASSIS." Let me give you the perspective I hope to bring to these deliberations.

Having worked full time for the past 22 years in the occupational health and safety field, first with the chemical manufacturing industry and more recently with the service industries, I have had the benefit of the experience of Canada-wide and US operations' interests and needs. In spite of their dissimilar multiple perspectives, I, as a safety professional, have been challenged from very early in my career and repeatedly ever since, with the same burning questions: How are we doing? How can we do better?

I have not been able to answer those questions very well except within the narrow confines of internal data; but not with much broad-based, comparable, peer performance data which was and is being asked for by concerned management.

I do not intend to develop the reasons for this need, nor the benefits of meeting it, any further at this point. These are aspects that will become apparent to us as we work together through this workshop. It is apparent that there is a high level of agreement among all the stakeholders and interested parties; be they government, as drafters of law, administrators of workers' compensation benefits, consultants or enforcers; be they labour, as organized promoters of health and safety in the workplace, trainers or employees exposed to the risks and hazards of work; be they industry as leaders concerned for the quality of performance, product and service; or be they professionals, as staff with any of the other groups, consultants or occupational medical practitioners. There is a high level of agreement among all these groups in their collective desire to see a credible, effective Canadian occupational health and safety performance measuring system come into being.

Some of you may be here today considering this subject from a critical point of view for the first time and may be saying to yourselves, "It isn't apparent to me that such a need really exists. Besides Jack Bedggood's professed unease at not being able to tell what the score is, what evidence is there that the time is right for me to get on side and devote some time and energy to supporting this statistics thing?"

Let me answer that. Here are some of the signs that this is a national issue of importance to occupational health and safety, or to put it another way, of importance to the quality of working life for all Canadians:

1. This is the third CCOHS regional highly-attended workshop to coalesce interest and energy around the issue this year.

2. There has been, as one participant who attended the first two workshops put it, "an amazing level of consensus among representatives of all four major stakeholders" for a pan-Canadian statistical program.

3. The Canadian Manufacturers' Association has identified the issue as important and is active in promoting it.

4. The Ontario Advisory Council on Occupational Health and Occupational Safety, in its third annual report, recommends in part "that the Minister of Labour take the necessary steps to coordinate a system of uniform data collection...for accident prevention (purposes)."

5. CCOHS Council of Governors has adopted a process for facilitating Canadian standards in response to a federal request. Various safety and occupational health subjects will be selected; statistics may well be among them.

6. The Canada Safety Council at its annual meeting in Winnipeg this last June passed a resolution calling for it "to work with federal and provincial agencies to promote the gathering and dissemination of standardized and prevention-oriented statistics on workplace illnesses and injuries."

Clearly, the momentum is growing--many people are getting excited about statistics. I hope that by this time tomorrow each of you will also have caught some of this excitement as we approach the end of the workshop. But therein lies the risk--a risk of loss of momentum at the end of these two days. We face a challenge together in this workshop, not so much to gain a fuller appreciation and knowledge of all the aspects and benefits of a national statistics program were such a program in place, but more a challenge to grasp the vision and make it a reality.

I believe the two most important words in our agenda are the last two--"Action Plan." Keep reminding yourself of this need and repeat over and over again "Action plan, action plan, action plan." Fellow participants, in all our discussions, let the need for this forward path be foremost. Remember that our ultimate task together is to meet the challenge to set in motion an action plan which will see a pan-Canadian health and safety statistical system in place, a system that will lead to targetted prevention of work-related bodily harm for all Canadians. Each of us here, like our fellow Canadians, has the right to have fun and enjoy our work, and as practitioners in the health and safety field we also have the responsibility to promote safe and healthful workplaces for our fellow citizens.

While this challenge may at first glance appear to be an awesome one, I believe the time is right for us to meet it now--for two reasons. First, we do not have to start from scratch. There is already a lot for us to build upon. For example, Statistics Canada has a statistical system with some useful occupational classification codes. And the US Bureau of Labour Statistics (BLS) has an occupational statistics program with a valuable and useful injury and illness classification system, known and used broadly by multinational companies.

Secondly, and more importantly, we in the Canadian safety and health business have just witnessed a national and unique success story which dealt effectively with a health and safety issue through a multipartite cooperative approach. We have a model modus operandi to follow. I refer, of course, to WHMIS. The Workplace Hazardous Materials Information System produced for Canada a "Model OSH" regulatory framework which recognizes our unique federal and provincial jurisdictional responsibilities and blends their respective roles into a total system that meets the needs of all the stakeholders--the same stakeholders here today looking at this next health and safety issue of national scope.

WHMIS built on existing work done by the United States where it took a struggle of over a decade to put a hazard communication standard in place. Since my company operates in both countries, we are required to comply with both regulations. Without getting into details let me simply say that we did well in Canada. I believe our WHMIS program is better both from an administrative point of view and in meeting the workers' right to know needs.

There is a parallel opportunity for us today to use this WHMIS-proven multipartite process and again to learn from our US counterparts to produce a Canadian product that is better. There is much to commend the BLS system. Let me refer to the Wall Street Journal of February 11, 1989. An article titled "The Hazards of Rating Workplace Safety" which critiqued the existing statistical data produced by BLS, concluded "...the most glaring intelligence failure for policy purposes is the absence of any serious effort to analyze the causes of workplace injuries and the efficacy of countermeasures. Although greater accuracy is desirable, OSHA's greater needs are better data on the causes of accidents..."

You see, in the US they do a pretty fair job of answering that first "burning question" that I have been challenged with, "How are we doing?" But they have failed miserably on the question "How can we do better?"

Here is our opportunity. We need to upgrade the BLS system, transform it to meet Canadian needs and mold it into our legislative frameworks. In the words of my presentation title, we need to "Build a Better CHASSIS." CHASSIS is my acronym for our to be made-in-Canada health and safety statistics program: Canadian Health And Safety Statistical Information System

Are you going to be one of those who watch things happen? Or are you going to be one who gives some of your time and energy to help build a better CHASSIS Model OSH program. Stay to the end of the workshop; take full part in this new safety health frontier; join with your peers and be a part of our action plan for CHASSIS.

Lillian Vine

I am particularly grateful to our next speaker, Robert Kosnik. These workshops have not been a static thing, but an evolving process. As things evolved, we felt a serious lack--we were not getting enough input from the health side. We needed someone to speak who was very knowledgeable, who had hands-on experience, who worked with people, who developed programs and who was frustrated with the lack of occupational health and safety statistics. Good fortune led me to Robert Kosnik and I am delighted he could be here.

Robert has a Bachelor of Science degree from the University of Toronto where he also obtained his medical degree and a diploma in Industrial Medicine. He is a certificant of the Canadian Board of Occupational Medicine, diplomat of the American Board of Preventive Medicine (Occupational Medicine), a Fellow of the Royal College of Physicians and Surgeons of Canada, and a Certified Specialist in Occupational Medicine.

He has been in full-time private practice of Occupational Medicine since 1981 and works as a consultant in multiple affiliations with occupational health services within industry.

Robert Kosnik - Occupational Health Physician

As a Clinical Occupational Health Physician, I accept the challenge issued at the Occupational Health and Safety Statistics workshops in both Edmonton and Moncton. The challenges from these workshops were: to help attain a consensus on definitions for Occupational Health and Safety Statistics; to develop a pan-Canadian system for collection and classification of Occupational Health and Safety Statistics; to take into considerations medical confidentiality when obtaining such statistics. A review of the report of the workshops in Edmonton and in Moncton indicates that a lot of groundwork has already been done. I assume that this workshop will build upon that foundation. The definitions determined at the last statistics workshop seem to emphasize safety more than health. An explanation for this imbalance could be that very few useful Occupational Health Statistics are available for the everyday practice of clinical medicine. The goals of my presentation are threefold: first I will describe my perspective of health statistics; secondly I will attempt to explain and justify the Occupational Health Statistics that I would like to see available; and finally, I hope to see this group reach consensus on the definition, collection and confidential nature of Occupational Health Statistics.

A diversity of occupational health models exists for the practice of Occupational Medicine in Canada. The definition of the specialty as stated by the Royal College of Physicians and Surgeons of Canada, is: "Occupational Medicine is a medical discipline that deals clinically and administratively with the health needs of both individuals and groups with respect to their working environments and includes the recognition, evaluation, control, management, and prevention of occupationally-related diseases and injuries."

The medical discipline that deals with the study of the distribution and determinants of disease and health in populations is termed "Epidemiology." When this discipline turns its attention towards the workplace, the discipline is referred to as "Occupational Epidemiology." The current discussion on Occupational Health and Safety Statistics needs to consider aspects of this discipline.

Inherent in Occupational Epidemiology is the need to measure the amount of disease in a specific population or community by relating cases to the general population. This aspect of epidemiology brings into play the use of the knowledge about the outcome for determining the rates of disease. The rate for a particular disease is termed "morbidity rate." The numerator is the number of people with the disease under consideration, the denominator is the population in the same area at the same time. The few sources available for Occupational Health Statistics do not measure the denominator or the population at risk, therefore, these statistics are incomplete. As a result, the clinical physician has difficulties.

Current sources of Occupational Health Statistics include the listing of disease claims compensated by the provincial Workers' Compensation Boards; some nationwide data on hospitalization and Canada Pension Plan disability claims; and the scientific literature.

The workers' compensation data lists the number of cases for a particular occupational disease, such as the number of cases for metal-fume fever. This data does not allow for the calculation of any morbidity rates. Identifying the population at risk and calculating morbidity rates for that particular disease in a particular occupation would provide a better indicator of hazardous conditions in the workplace.

The number of days hospitalized, like the number of days lost from work, are macro-indicators. That is, they only allow comparison to themselves, because the population at risk is not determined. These sources of data should be the starting point to developing severity statistics.

The scientific literature tends to focus on mortality rates and case reports of remarkable and unexpected outcomes. Mortality rate studies sometimes determine the population at risk, but a shift to developing more prospective studies which focus on morbidity is needed.

To illustrate these points in practical terms, consider the following examples. There is Canadian data on the number of hospital days for heart attacks, but there are no morbidity rates for heart attacks. Going a step further, the number of days that 40-44 year old males spend in hospital for ischemic heart disease is known, but the rate of heart attacks in 40-44 year old males is not known. Another example: in the field of Occupational Medicine, the Workers' Compensation Board releases data on the number of cases of contact dermatitis annually, but there are no sources of morbidity or severity rates of contact dermatitis. It is not possible to determine morbidity rates for contact dermatitis in workers for specific occupations such as plating operations or machining operations. The severity may be judged by how many workers cannot return to work; but the number of workers who need to change jobs is also unknown. In both these examples, the missing piece of information is the denominator--population at risk at the time. In the field of Occupational Health, determining the population at risk could be assisted by a system which tracks the occupations of all workers.

From the viewpoint of Occupational Epidemiology, I want to present concepts which concern prevention. Groups are studied to ascertain factors which may apply to individuals. These factors will be used in forming prevention strategies. Prevention, in the narrow sense, means inhibiting the development of disease before it occurs. When the definition is broadened to include interrupting or slowing disease, epidemiology divides prevention into three levels--primary, secondary and tertiary.

Primary prevention deals with preventing the occurrence of the disease. Such prevention strategies focus on lowering exposure by engineering control or counselling the worker on the risks of pre-existing factors, and increasing resistance by the use of personal protective equipment.

Secondary prevention aims at preventing illness even though the disease occurs. Such prevention strategies focus on early screening, such as the PAP smear or biomedical surveillance, or early therapy, such as antihypertensive therapy or early treatment of back injuries in Community Clinics as authorized by the Workers' Compensation Board of Ontario.

Tertiary prevention aims at preventing the sequelae of disease. Such prevention strategies include speech therapy for stroke patients and vocational rehabilitation to reduce the long term sequelae of injuries.

This subdivision of prevention is useful in considering how health and safety statistics fit into prevention programs. For example, the average number of days lost for particular injuries, such as back problems, would help to define the effectiveness of a secondary preventive strategy, such as early treatment.

The practice of medicine has traditionally emphasized rate of recovery by particular treatment modality. Occupational Medicine has focussed on mortality rates as a measured outcome. Both disciplines have neglected the determination of morbidity rates for a particular disease or injury. Determination of background rates of morbidity for such common diseases as miscarriage, insulin reactions in diabetics, and herniated lumbar disk surgery would be useful. If more comprehensive statistics were available, I would be able to provide more accurate advice to workers exposed to chemicals who become pregnant, to insulin dependent diabetics who want to do shift work, and to workers who wish to return to lifting jobs following back surgery.

Such a broad plan for disease is likely not possible, but I feel that developing a system for keeping track of the occupations of all workers, for maintaining the outcome of all pregnancies, and for determining the incidence and severity of specific diseases under provincial Workers' Compensation Boards plans would allow future researchers the opportunity to study morbidity.

SUMMATION OF WORKSHOPS

Lillian Vine

This workshop is the last in a process which began in February 1988 when our governing Council decided that statistics was an important occupational health and safety topic needing discussion. I will sum up what happened since then and how the conclusions of today correspond to the conclusions from the Edmonton and Moncton and the June 1988 planning workshop.

When the providers of information--Statistics Canada, the Bureau of Labour Statistics of Labour Canada, some of the provincial statistics organizations, the Association of Workers' Compensation Boards of Canada--came together at that planning workshop, they knew that there were problems with statistics that made people unhappy and that were making their own jobs less than satisfying.

They recognized that there was a crying need for consistency. If statistics were to provide useful information, the numbers people needed for their own prevention programs had to be comparable to other numbers; but they couldn't be. This made statistics much less useful for prevention than they could be. Barrie Ross spoke yesterday about two cases of allergic dermatitis among a very small workforce, which led him to search for something unusual in the particular working conditions. Two is a very small number, but one of that small workforce it seemed statistically significant. Would one have been a statistically significant number, or would it have been an aberration? Had there been only one, would Barrie have let it pass as a curiosity he had only read about in medical school and gone no further? But suppose there were a central data base where he could find other or even one other case elsewhere in a similar occupation? He would then have good reason to suspect that this was a significant finding and that he needed to investigate the circumstances further. That example which he gave yesterday painted for me, a self-confessed non-expert, a very human and practical view of a complex subject.

At the planning workshop, Stan O'Shea represented management and one of our Governors, Serge Trudel, represented labour. Both are users of occupational health and safety statistics; both were frustrated because they needed statistical information. Not that there was a dearth of statistical information! Far from it. There was lots of statistical information; but nobody had ever asked them what they needed and why they

needed it. The providers were frustrated because they did not know the questions which their numbers were supposed to answer. They had many ideas for making things less confusing; they had been talking about them for a very long time, with little result. They needed something called "the political will" of the users. This is what the providers were looking for from the workshop; I think the "political will," which may well have existed before these workshops, was certainly given voice again and again in these workshops.

We brought people together in Edmonton, a disparate group with different needs. They came to several conclusions that made clear that the statistics available now are not fulfilling needs adequately. One thing they agreed was needed was consistency of definitions so that when one person talked about an apple the other understood an apple, so that information about an apple is useful information because all are talking about and understanding the same thing.

They asked the Canadian Centre for Occupational Health and Safety to come up with definitions, but these would have lacked what definitions lack now--consensus. We tried to do it instead by putting definitions on the agenda for the Moncton workshop. Participants struggled with the subject in Moncton, but they came up with some definitions which might form the basis to discuss apples as apples. In this workshop, you too struggled with definitions. You asked for a national multipartite steering committee or task force to look at, among other things, definitions. When this comes about, there will be a need to look at what has been done and is being done internationally and to develop definitions that will meet the needs of the users of a national Canadian system.

Consistency has been identified as crucial throughout the workshops. Consistency of what? It was agreed it should start with the investigation, because if you are looking for something and someone else is looking for something else and this information all goes into a jumble, it is not going to be very recognizable to someone looking for the apple in this fruit salad of information. You want an investigation which tells you the cause; not only the immediate cause, but the events that led up to the immediate cause. But it has to be relatively uncomplicated or it won't be done. And labour and management both need to participate in it.

Once there is all this information that makes sense and means the same thing, it must be easily accessible, no matter where you are, and no matter how large or small your organization is--the concern for small business has been voiced at our workshops across Canada.

The agreements throughout all point to consistency--in definitions, in investigation, in reporting and recording. There is agreement on the importance of simple but complete causal information; and some kind of central repository. In all workshops, accidents were discussed more than disease. We had recognized that disease is much more difficult because of long latency periods, because of moves into different jobs, and because of links with lifestyle. There is also the problem, which has not been resolved but which has been raised at all the workshops, of confidentiality. We live in an electronic age where it is very easy to link information; already there is much more and more easily accessible information about me than I would like; and I care less about what anyone knows about me than what is done with that information. There is a need for comprehensive information, but it must not be comprehensive information that damages the rights of individuals. This is a difficult issue that still will need a lot of discussion.

There was a great deal of support for these workshops all along. There was a strong will to develop consensus from the very start which has only grown stronger. That will is that when we leave here today, we know what we are going to do tomorrow, so that this issue will be addressed nationally. The momentum you have generated in these workshops has led to the point where you want to keep moving. If you feel that we can provide, as we have for the workshops, a secretariat and facilitation, and information, the Canadian Centre for Occupational Health and Safety is prepared to do so. But we must recover costs, as others do; we would like the opportunity to bid for the work.

CCOHS/CCHST

APPENDIX A

EDMONTON OCCUPATIONAL HEALTH & SAFETY STATISTICS WORKSHOP PARTICIPANTS

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